

## Definitions of "Chord" in the Teaching of Tonal Harmony

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# Definitions of 'Chord' in the Teaching of Tonal Harmony

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In North America, there has been a growing tendency in recent years to include pop-rock examples in undergraduate tonal-harmony classes. Recent textbooks by Turek (2007), Clendinning and Marvin (2011), Roig-Francolí (2011), and Laitz (2012) all feature excerpts from the pop-rock repertoire.<sup>1</sup> At the Society for Music Theory's annual meeting in Minneapolis in 2011, a panel was convened specifically to discuss the pros and cons of studying classical, as opposed to popular, music in the theory classroom.<sup>2</sup> This trend undoubtedly stems from an attempt to make the subject matter more palatable to today's students, whose musical backgrounds are increasingly oriented toward pop-rock. Yet by incorporating pop-rock music into the classical harmony classroom, teachers come face to face with some of the fundamental differences between the harmonic idioms of these two styles.<sup>3</sup>

Tonal-harmony teachers use pop-rock examples to illustrate not just theoretical concepts dealing specifically with harmony, but a wide array of ideas. For instance, in looking just at one of the above-cited textbooks, Clendinning and Marvin (2011), we find U2's 'Miracle Drug' demonstrating simple meter (30) and Dolly Parton's 'I Will Always Love You' introducing key signatures (55); these songs prepare the way for later harmonic examples, such as Elvis Presley's 'Love Me

Tender' and its major II triad (at 'love me sweet') functioning as a secondary dominant to V (408). In all these cases, pop-rock songs simply substitute for what would have been classical excerpts in older textbooks. Pop-rock music can also serve as a theoretical topic in and of itself, adding to the total amount of material for professors to teach. Clendinning and Marvin, in addition to peppering their entire text with pop-rock examples, devote a whole chapter to 'Popular Music', with sections on extended and altered chords, pentatonic scales, and popular-song phrase structure, among other issues.

Theory teachers have long recognized the differences between classical and jazz harmony, as evidenced by jazz commonly having its own separate textbooks and classes. Acknowledgement of the analogous differences between classical and pop-rock harmony (London 1990: 112; Stephenson 2002: 101) presents us with a significant methodological dilemma: assuming we continue to incorporate pop-rock music in the classical harmony classroom and do not give it its own separate course,<sup>4</sup> the question becomes whether we should use pop-rock excerpts only to the extent that they can serve as illustrations of classical idioms, or instead engage pop-rock music on its own terms. If we choose the latter option, and endeavor to move beyond a treatment of pop-rock music that is

1 Of these books, Roig-Francolí's and Clendinning and Marvin's contain the largest number of pop-rock examples, using them throughout their texts. This trend was foreshadowed by textbooks such as Sorce (1995).

2 This panel was entitled 'The Great Theory Debate: Be It Resolved...Common Practice Period Repertoire No Longer Speaks to our Students; It's Time to Fire a Cannon at the Canon'.

3 Ken Stephenson (2001: 110-11) has pointed out the sometimes uneasy combination of classical and pop-rock pedagogical examples in his review of the first edition of Miguel Roig-Francolí's textbook *Harmony in Context* (2003). On pop-rock music and theory pedagogy, see Adler (1973), Capuzzo (2009), Casanova López (2008), Collaros (2001), Covach, Clendinning, and Smith (2012), Fankhauser and Snodgrass (2007), Folse (2004), Gauldin (1990), Maclachlan (2011), Repp (2010), Rosenberg (2010), Salley (2011). On North American tonal-harmony pedagogy, and North American harmonic theory generally, see Thompson (1980). Benitez (1999) discusses the pedagogical potential of The Beatles' music in the context of post-tonal theory.

4 Undoubtedly, schools exist at which classes on rock harmony, distinct from classical harmony, are taught (e.g., Berklee College of Music). But these would be isolated exceptions to the national trend.

somewhat tokenistic (if well-intentioned), we must then also decide whether those pop-rock-music 'terms' be defined in ways classical musicians would define them (etic-ally), or in ways pop-rock musicians would define them (emic-ally). If we choose the emic approach, and let pop-rock musicians 'speak for themselves', we then will need to rethink certain aspects of the harmonic theory we teach.

One such aspect concerns how we define a *chord*. Notwithstanding historical issues surrounding the term (Dahlhaus 1990: 67), there are two matters pertinent here. The first has to do with how a tonal chord is spelled. In most classical tonal harmony the term 'chord' is usually restricted to triadic structures. To give just one instance, Laitz says:

The combination of three or more different pitches creates a harmony, or *chord*. There is an important distinction between just any combination of pitches and combinations that are found in tonal music. In tonal music, while we will see chords composed of many intervals, it is the third that plays a generative role. There are two types of chords in tonal music: (1) *triads*, or chords that comprise three distinct pitches stacked in thirds, and (2) *seventh chords*, or chords that have four distinct pitches stacked in thirds. (Laitz 2003: 71 [original emphasis])

The exception that proves the rule, so to speak, is the IVadd-6th chord, which is an alternative

interpretation – most famously in the context of Rameau's *double emploi* – of the first-inversion II seventh chord.<sup>5</sup> In contrast to this position, informal pop-rock 'theory' – i.e., the thinking that can be deduced from published transcriptions and how-to-play manuals written by and for practicing pop-rock musicians – features no restriction on chords regarding intervallic makeup. Add-sixth chords abound in the pop-rock repertory, as do thirdless 'power chords' (dyads of perfect fifths or perfect fourths, often doubled in octaves).<sup>6</sup> Pop-rock musicians also regularly use 'sus4' and 'sus2' harmonies, as seen in Example 1, a brief excerpt from the intro of one published version of Don McClean's 1971 hit single 'American Pie' (100 Greatest Songs 2002: 7). Here, the neighbor (auxiliary) motion (F#-)G-F#-E-F# in the top line of the piano creates five distinct sonorities that the transcribers indicate with five separate chordal symbols: D(major), Dsus4, D(major), Dsus2, D(major). A tonal-harmony teacher would no doubt employ the concept of a nonharmonic tone here to explain the G and E, both of which embellish a single DM triad.

The etymology of 'sus4' and 'sus2' involves an abbreviation of the expressions, respectively, 'suspended perfect fourth above the root bass' and 'suspended major second above the root bass'. However, the term 'suspended' here is a misnomer because it does not mean that the note between the root and fifth is held over from a preceding harmony. Nor does it mean the note is a nonharmonic tone; all three notes are fully fledged members of the chord. The reason why five chords – as opposed to just

#### Example 1

Don McLean, 'American Pie', from intro.

Piano

... used to make me smile...

- 5 Although the actual term *double emploi* dates to Rameau's 1732 *Dissertation* (Rameau 1974: 47), the concept is intimated as early as 1722 in some of the analyses from his *Traité* (e.g., Rameau 1971: 296); see also Christensen (1993: 194 n. 82). Rameau's importance to harmonic theory is well known, but it has additionally been claimed that Rameau's extended manuscript 'L'Art de la basse fondamentale' (c.1740s) is the beginning of the modern harmony textbook (Christensen 1993: 286; Wason 2002: 55).
- 6 Power chords are frequently played with heavy distortion that causes certain overtones and combination tones (determined by the exact voicing of the fingered notes) to become fairly loud, thus making a controversial issue of whether these chords should be considered dyads at all (Lilja 2009: 104-122).

one – are identified in this brief passage is clear: most pop-rock guitarists and keyboardists are formally and/or informally trained to think in terms of individual sonorities, even in cases where the motion is clearly melodic – not harmonic – in nature. I myself speak from personal experience on this matter, as I learned this method in my youth, before my formal studies in classical theory.

It is immaterial whether songwriter and performer Don McClean himself thinks this passage features five harmonies. For present purposes, it must simply be shown this style of harmonic thinking *exists* in pop-rock culture, and that, additionally, this thinking is *characteristic* of pop-rock culture. The latter claim I must ask readers to accept in good faith.

The second issue having to do with the definition of ‘chord’ concerns the special role of the bass. Classical tonal theory as it is oftentimes (although not all the time) taught in North America counts as true ‘chords’ only triadic structures that are supported by bass tones in some significant way, usually requiring a sonority to be in root position or, possibly, first inversion. For instance, Schenkerian-influenced theory normally recognizes the ‘root-hood-tendency of the lowest tone’, by which ‘the lowest tone in each case, striving to fulfill the law of nature, would seek above all to be the root of a  $\frac{5}{3}$ -sonority...’ (Schenker 2001: 8; see also Schenker 1979: 65-6). Example 2, an excerpt from the opening of the second movement of Beethoven’s first Piano Sonata, Op. 2 No. 1 (Beethoven 1796: 5), shows a motion from tonic FM I to dominant CM V, with some intervening sonorities that possibly could be interpreted as  $IV_4^6$ ,  $II_2^4$ , and cadential  $I_4^6$ . The last of these three potential chords might be taught

as the product of melodic – not harmonic – motion, specifically from two simultaneous suspensions, and so would be considered an early incarnation of the V stated explicitly on the second beat. In other words, the powerful bass C that arrives on the downbeat of m. 2 trumps all other notes. The two other potential chords, the  $IV_4^6$  and  $II_2^4$ , are perhaps even less likely to be taught in the harmony classroom as having their own harmonic identity. Instead, these ‘pedal’ sonorities would probably be analyzed as the result of two simultaneous neighbor tones ( $B\flat$  in the right hand and D in the left) followed by two simultaneous passing tones (G in the right hand and  $B\flat$  in the left) above a stationary root bass F. Thus the entire first measure would be a single tonic I triad. The instructor might distinguish between these mere *sonorities* – which only *appear* to be chords – and genuine *chords*, or between these *non-functional* chords and *functional* chords; these two distinctions are essentially the same. *Voice-leading chords*, *linear chords*, *apparent chords*, *embellishing chords*, and *illusory chords* are other common expressions used to convey the second-class status of certain sonorities. Furthermore, in written contexts, such as textbooks, so-called non-functional chords or mere sonorities are sometimes labeled ‘chords’ within parentheses. All of these terms and symbols indicate that the verticalities in question are not representative of harmony per se – that they are not involved in harmonic progression.

Pop-rock music does not normally recognize chordal inversion in its theory, and in its musical practice typically employs mostly chords in root position. However, pop-rock chords are not precluded from having a tone other than the root in the bass, and moreover the bass

### Example 2

Beethoven, Piano Sonata, Op. 2 No. 1, Mvt. II, mm. 1-2.

Adagio

I  $IV_4^6$  I  $II_2^4$  I  $I_4^6$  V

$I_3^3$  -----  $\frac{6}{4}$  -----  $\frac{5}{3}$  -----  $\frac{4}{3}$  -----  $\frac{2}{0}$  -----  $\frac{3}{18}$   $V_4^6$  -----  $\frac{5}{3}$

can feature any pitch-class. 'Slash-chord' notation, as it is sometimes called, substitutes for inversions notation in pop-rock, and is used whenever the root is not the lowest tone, including when the bass is a tone that is not doubled in the upper part of the chord. For instance, the common V11 chord typically offers no third and sometimes no obvious fifth, leaving  $\hat{4}$ ,  $\hat{6}$  and  $\hat{1}$  over a bass  $\hat{5}$ , as shown in Example 3 with reference to a tonal center of C; this chord would usually be notated F/G ('F major slash G'), which would technically be  $IV/\hat{5}$ . Such a chord can be heard with the introduction of the orchestra at the beginning of The Beatles' 1970 'The Long and Winding Road', although in this case, as in most cases of the pop-rock V11 or  $IV/\hat{5}$ , the perfect fifth above the bass  $\hat{5}$  sounds as a strong overtone, even if it is not recognized as part of the chord by most pop-rock practitioners.<sup>7</sup> In a tonal-harmony classroom, this sonority would most certainly never be taught as a chord unto itself, or at least as anything other than a pop-rock peculiarity outside the normal purview of classical tonal theory and practice.

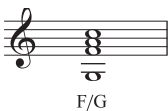
These two issues relating to classical definitions of 'chord' – the tertian nature of tonal chords, and the favoring of root-position and first-inversion chords – can be thought of as different aspects of the same larger topic of tonal *levels*. Broadly speaking, tonal levels are essential to North American classroom theory but relatively uncommon in informal pop-rock 'theory'. With

this in mind, we can make the generalization that North American classroom harmonic theory on the whole represents a more exclusive attitude regarding which sonorities are considered chords (or functional chords, or whatever the structures on the positive side of the distinction are called), while informal pop-rock harmonic theory represents a more inclusive attitude. It goes without saying that we could find classical tonal theorists and teachers who are not so restrictive, the most famous of which, probably, being Schoenberg, who attempted in his *Theory of Harmony* to refute the entire notion of a nonharmonic tone and asserted that 'non-harmonic tones do form chords' (Schoenberg 1978: 309).<sup>8</sup> Likewise, we surely could find pop-rock musicians who are more selective, and still others who do not care about such matters at all – who would even deny having taken a position on chordal definition. Regardless of such alternative viewpoints, I believe the general distinction between the two cultures holds, and therein lies the rub.

Some harmony instructors might dismiss these cultures' divergence as inconsequential, on the basis that the pop-rock stance, which often acknowledges only a single harmonic level, is too unsophisticated to teach in our classrooms.<sup>9</sup> The pop-rock view is focused on the foreground, to be sure. Yet there is nothing in the multi-leveled position itself that determines directly and specifically the level at which mere sonorities turn into actual chords and vice versa. Rather, this de-

### Example 3

Slash notation for 'rock dominant' in C major.



- 7 The definitive published compendium of Beatles transcriptions, *The Beatles Complete Scores*, gives the  $IV/\hat{5}$  interpretation of the chord in 'The Long and Winding Road' (Fujita et al. 1993, 614).
- 8 'There are...no non-harmonic tones, no tones foreign to harmony, but merely tones foreign to the harmonic system. Passing tones, changing tones, suspensions, etc., are, like sevenths and ninths, nothing else but attempts to include in the possibilities of tones sounding together – these are of course, by definition, harmonies – something that sounds similar to the more remote overtones' (Schoenberg 1978: 321). Unfortunately, Schoenberg confesses that he did not succeed 'in finding a [theoretical] system nor in extending the old one to include these phenomena' (Schoenberg 1978: 329).
- 9 Among the many classical theorists who have derided harmonic theories that sanction too many 'chords' is Oswald Jones, when he writes, in his annotations to Schenker's *Harmony*, that Schenker's words 'imply a clear renouncement of the so-called "harmonic analysis", which, disregarding context and continuity, attaches the label of "chord" to any simultaneity of tones [emphasis added]' (Schenker 1954: 153 n.12).

cision is essentially an arbitrary one, made in any number of ways and resulting in different chordal thresholds for different teachers: for instance, what counts as a ‘chord’ in Walter Piston’s textbook *Harmony* (1987) is not quite the same as in the Schenker-influenced *Harmony and Voice Leading* by Edward Aldwell, Carl Schachter, and Allen Cadwallader (2011). (Their differences on this subject can be gleaned from their titles alone.) In light of the introduction of pop-rock examples into the classical harmony classroom, it makes sense to try to bridge the gap between classical and pop-rock approaches, as opposed to ignoring one or the other. The simplest way to go about building this bridge is to develop a new method of chordal identification broad enough for pop-rock ‘theory’ yet refined enough for level-driven classical theory.

and contrasting chords from Schumann’s ‘Aus meinen Thränen sprissen’, the second song from 1840’s *Dichterliebe* (Schumann 1844: 5). The songs of this cycle, particularly the opening two numbers, have been a favorite topic for music scholars, and music theorists in particular. While the focus here is very different from previous treatments, the five categories of the present study will be able to help in articulating some of the aspects of the song that have proven to be among the most controversial for theorists. Example 4 presents Schumann’s score with certain chords identified by the letter designations J through Y (V is left out, to avoid confusion with roman numeral 5).

The first category, *temporal location*, differentiates between any two chords separated by time, whether the time-frame is a musical pas-

Table 1

Five categories of chordal identification.

temporal location	placement in time
color	chordal texture (timbre, articulation, and voicing), bass chord-degree, and pitch-class content
roman numeral	scalar-intervallic relation of the root to tonal center
function	syntactical role
hierarchical position	structural/embellishing role

Here I will suggest such a method, one that allows every sonority to be considered a genuine chord while at the same time incorporating the various levels that enable important differences between sonorities to be represented. If we define ‘chord’, along with ‘functional chord’ and all the previously cited variations, so as to include any and every sonority, then the work previously performed by the deployment of ‘chord’ versus ‘sonority’ (and ‘functional chord’ versus ‘non-functional chord’, etc.) can be re-assigned to distinct categories of chordal identity based on the chordal characteristics most relevant to tonal-harmony teachers. Table 1 lists five such categories: temporal location, color, roman numeral, function, and hierarchical position. These categories represent a way of identifying chords that offers great freedom in recognizing degrees of similarity and dissimilarity between any and all harmonies. I will illustrate these five categories by comparing

sage, a movement, a whole piece, or, for more philosophically minded instructors, measured independently of the music itself. Hence, temporal distinctions can be very basic, as between CHORDS Q, R, and S, which all are, despite their similarities, different chords in terms of their articulated positions both with regard to the meter and with regard to the running series of all the song’s sonorities. Yet temporal distinctions can also be rather complex, as when we compare the opening CHORD J with itself in two different temporal contexts: the song in isolation versus the song heard following the preceding number in the cycle, ‘Im wunderschönen Monat Mai’. This is to say, we can hear two different CHORDS J: one, the tonic of ‘Thränen’ – an incomplete first-inversion AM triad (it is first-inversion because the lowest sounding pitch is the tenor’s C $\sharp$ ); the second, the tonic anticipated by the unresolved C $\sharp$ dom7 at the end of ‘Monat Mai’ – an incom-



## Example 4

Schumann, 'Aus meinen Thränen spriessen'.

**Nicht schnell**

The musical score is divided into three systems. The first system (measures 1-4) features a vocal line starting with 'Aus meinen Thränen spriessen' and piano accompaniment. Chords J, K, L, M, and N are marked above the vocal line. The second system (measures 5-8) continues the vocal line with 'wer - den, ein Nachti - gallen - chon und wenn du mich lieb hast Kindchen, schenk' ich dir die Blumen'. Chords O and P are marked. The third system (measures 9-12) concludes with 'all' und vor deinem Fenster soll klin - gen das Lied der Nachti - gall.' Chords Q, R, S, T, U, W, and X are marked. Dynamics include *p*, *pp*, and *ritard.* Performance markings include 'Ped.' and '\*'.

plete second-inversion  $F\sharp m$  triad (see Example 5).<sup>10</sup> Obviously, these two CHORDS J would also be different in ways other than their temporal location; the point here is that temporal location as a category of chordal identity is flexible with regard to the temporal context in which a chord is understood to be located, and this flexibility in and of itself can allow certain kinds of chordal distinctions to be made.

The second chord-identity category, *color*, is the hardest to describe, simply because classical theorists use the term 'coloristic' to describe so many different harmonic characteristics. It is helpful to distinguish between at least three types of coloristic identity: chordal texture, bass chord-degree, and pitch-class content.<sup>11</sup> The first type, *chordal texture*, itself includes three subtypes: timbre, voicing (not

<sup>10</sup> The decision to be very literal about the lowest pitch of these two CHORDS J is not dictated by the proposed method of chordal identification. Some teachers might wish to treat the piano as containing the lowest pitch even when it technically does not; in this case, the CHORDS J would be an incomplete root-position AM triad and a first-inversion  $F\sharp m$  triad. They would still be temporally distinct.

<sup>11</sup> Among the other possible types of identity covered by the category 'color' would be interval vector, a chordal characteristic more relevant to atonal than tonal repertory.

## Example 5

Schumann, 'Im wunderschönen Monat Mai', mm. 25-6.

The image shows a musical score for two staves. The top staff is labeled 'Singstimme' and the bottom staff is labeled 'Pianoforte'. The key signature is one sharp (F#) and the time signature is 2/4. The piano part includes lyrics: 'tar - dan - do'. Below the piano part, there are markings for 'Ped.' and an asterisk '\*'. At the very bottom, there is a 'V<sup>7</sup>' marking.

affecting the bass), and articulation. As to *timbre*, CHORD W and CHORD X are distinguishable by the singer's note (doubling, or doubled by, the piano) being present in the former and not in the latter. As to *voicing*, CHORD M and CHORD T differ in terms of the registral distribution of the notes D, F#, and A. As to *articulation*, CHORD R receives a sixteenth-note staccato marking while CHORD S receives no alteration to its dotted eighth duration; articulation in this sense covers anything and everything involving the envelope of a chord's sound (including how long the envelope lasts), whether certain tones are struck or held over, played loudly or softly, and so on. These three types of chordal texture are vague enough in meaning that distinguishing between them is not always straightforward. Still, these three terms are standard in classical musical discourse, and the individual tonal-harmony teacher is free to determine to what extent these three types are to be distinguished from one another. The important thing to keep in mind is that the distinction being made here is between *different chords*. From the perspective of color, CHORDS W and X, CHORDS M and T, and CHORDS R and S are not merely distinguishable *versions* of the *same* chords, they are different chords altogether. Of course, we can also measure *degrees* of similarity and dissimilarity, but that task will be performed through the comparison of entire categories, not within the cat-

egories themselves. CHORDS W and X, for instance, are no more the same chord from a coloristic perspective as I and V are from a roman numeric perspective.

The second type of coloristic identity, *bass chord-degree*, deals with chordal position – that is, root position or inversion. CHORD L differs from CHORD N in terms of which chord-degree – which part of the chord – appears as the lowest note: for CHORD L, it is the tenor's C#, and for CHORD N, it is the piano's A.<sup>12</sup> This coloristic type can be thought of as a particularly important incarnation of the subtype 'voicing' under the first coloristic type 'chordal texture', one so important to classical theory that it merits differentiation from the voicing of chords' upper parts.

The third color type, *pitch-class content*, covers cases in which chords differ in terms of the number of constituent pitch classes or, when the number of pitch classes is the same, in terms of the pitch classes themselves. CHORDS O and P differ by one note, the chordal seventh, which is heard in CHORD O but not in CHORD P (which is a triad). CHORDS T and U are both triads rooted on D, but feature different chordal thirds, CHORD T the major third F# and CHORD U the minor third F-natural. (Worth mentioning here is that CHORDS T and U are also substantially different with regard to articulation: while none of CHORD T's notes are held over from a previous chord, the only note actually struck when CHORD U arrives is the F-natural.)

12 Again, we are not locked into the decision to be literal about the lowest sounding pitch. If we chose to look only to the piano and ignore the tenor for this type of coloristic identity, CHORD L and CHORD N would still be distinct chords: the former would be in second-inversion and the latter in root position.



To reiterate, 'color' describes a slew of separable chordal characteristics. The extent to which these characteristics are distinguished from one another in the classroom is up to the individual tonal-harmony teacher.

The next main category of chordal identity, *roman numeral*, discriminates between sonorities based solely on the scalar-intervallic relations of their roots to the prevailing tonal center. In classical tonal harmony, the roman numeral is oftentimes considered to represent the entirety of a chord's identity, but in the current approach it is only one of five possible expressions of identity. To differentiate it properly from coloristic identity, roman numeric identity should not be understood to involve triadic quality (major, minor, augmented, diminished). Thus 'IV' and 'iv' would be the same chord from a roman numeric perspective. It is therefore simpler to use numerals all in the same case: 'IV' for all chords built on  $\hat{4}$ , whether major, minor, augmented, diminished, and thirdless power chords. Example 6a features a hypothetical harmonic substitution for CHORD M. In the real version, CHORD M is DM IV, while the substitution gives us Bm II $\hat{6}$ . These two harmonies have roots that are different distances from the tonal center, and therefore each harmony demands a unique roman numeral. Of course we could have picked any two sonorities with different numerals from the actual score and used them to illustrate this chord-identifying category. Yet in the comparison of this IV and II $\hat{6}$ , we can more easily see that roman-numeric identity is separate from functional identity, which is the next category. Both chords here relax into tonic – both exhibit what we might call 'subdominant function' (distinct from 'pre-dominant function') or what others might call 'plagal neighbor' function.

The category of *function* differentiates between harmonies according to the aural effects of stability, instability, or prediction resulting from harmonies' syntactical roles. Another hypothetical substitution of CHORD M appears in Example 6b. Here, not only are the colors and roman

numerals of the original IV and the imaginary V $\hat{2}$  distinct, but so are their functions: subdominant (or plagal neighbor) versus dominant. Both chords predict tonic I, but in different ways: subdominant IV eases into tonic, while the more unstable dominant V $\hat{2}$  drives toward it. (As we saw with CHORD J, the position of the hypothetical V $\hat{2}$  is determined by the vocal line's  $\hat{4}$ . Interpreting the harmony as a V $\hat{7}$  would not alter the point here.) The word 'function' in this context is meant in the broadest sense possible, signifying any and every kind of syntactical role that we may recognize in a sonority. This includes traditional functional designations such as tonic and dominant but also any kind of function a tonal-harmony instructor wishes to recognize, be it passing or neighboring or something entirely idiosyncratic to that instructor. The point here is that 'function' as a category of chordal identity is inherent to every sonority: there are no 'non-functional' chords under this classification scheme. Moreover, a chord's function is not equivalent to its roman numeral. Function is a more interpretative chordal characteristic, while roman numeral by comparison is a more objective one.<sup>13</sup>

The fifth and final category of chordal identity, *hierarchical position*, distinguishes between chords that contrast as either structural or embellishing at some particular analytical level. The two chords we just examined, CHORD M IV and its hypothetical substitute V $\hat{2}$ , exhibit different functions but the same hierarchical position: they both harmonize the melodic D, which itself is an embellishment of the C $\sharp$ s on either side; accordingly, both IV and V $\hat{2}$  embellish the tonic I triads that harmonize those C $\sharp$ s. Differences in hierarchical position can be thought of as extreme differences in function, as Example 7 will demonstrate. Here we have the opening portion of the foreground level of Schenker's (in)famous graph of 'Thränen', an example from *Free Composition* (Schenker 1979: Fig. 22b).<sup>14</sup> Schenker interprets CHORD M as a passing elaboration of an underlying pre-dominant IV to dominant V motion, from CHORD L to CHORD

13 For a very developed theory that separates roman numerals from functions, see *Tonal Pitch Space* (Lerdahl 2001: 193-248); see also Doll (2007: 27-34). Lerdahl's theory would seem to be aligned with the current project to a certain degree, in that it declares 'voice-leading chords are still chords' (Lerdahl 2001: 59).

14 Schenker's graph of 'Thränen' has been the topic of much scholarly conversation: e.g., Agawu (1989: 288-292), Drabkin (1996: 149-151) and (1997), Dubiel (1990: 327-333), Forte (1959: 6-14), Kerman (1980: 323-330), Komar (1979: 70-73), Larson (1996: 69-77), Lester (1997), and Lerdahl (2001: 222-223). Schenker also mentions the song briefly in his earlier *Harmony* (1954: 218-221). Schenker's published books are not in

## Example 6

Hypothetical substitutions for CHORD M, 'Aus meinen Thränen sprissen'.

a)

Singstimme  
Aus mei - nen Thränen sprissen, viel blühende Blumen

Pianoforte  
*p*

II<sup>6</sup>

b)

Singstimme  
Aus mei - nen Thränen sprissen, viel blühende Blumen

Pianoforte  
*p*

V<sub>2</sub><sup>4</sup>

N. In this hearing, the melodic C $\sharp$  becomes a 'consonant passing tone' when harmonized by CHORD M. The A that is the root of CHORD M merely gives consonant support to the C $\sharp$ ; it does not express a scale step (*Stufe*), and therefore CHORD M is illusory. This analysis conflicts with the simpler interpretation of CHORD M as tonic-functioning I (as we earlier assumed), harmonizing a stable C $\sharp$  that is embellished by a preceding upper-neighbor D. In both accounts, CHORD M is a root-position AM triad; however, Schenker's CHORD M functions not as a hierarchically superordinate tonic but rather as a weak *pre-dominant* chord (in the manner of a cadential  $\frac{6}{4}$ ) resolving to its ensuing V<sup>7</sup> (marked 'V' by Schenker). This to say, CHORD M in the simpler analysis is a different chord from Schenker's CHORD M with regard not only to function but also to hierarchical position.

It should be made clear that there are two separate but related issues at play in this Schenker example. One is that Schumann's progression can be heard in two contradictory ways, a contradiction that epitomizes a difference in chordal hierarchical position (and function). The second issue is that function and roman numeral can be separated from one another, allowing any numerically identified chord to perform various possible functions (any given function to be projected by various numerals). For Schenker, as for most tonal theorists and teachers, roman numerals are synonymous with functions, and since Schenker's CHORD M is not a tonic it can therefore not be 'I'; in fact CHORD M can have no roman numeric identity at all. Thus, this sonority is absent from Schenker's progression underneath the staff: 'I-IV-V-I'. In contrast, our proposed new method considers CHORD M as a 'I' automatically, without regard for its func-

themselves pedagogical per se, but Schenker's influence on North American tonal-harmony pedagogy is incontrovertible: see Beach (1983), Cadwallader and Gagné (2006), Damschroder (1985), Gagné (1994), Komar (1988), Larson (1994), Riggins and Proctor (1989), Rothgeb (1981), and Rothstein (1990) and (2002).

## Example 7

Schenker, *Der freie Satz*, graph of 'Thränen', excerpt from foreground level.

Fgd. I ——— IV (cons. p.t.) — V — I

tion or hierarchical position, based solely on the root's scale degree.

The method we are proposing in this article might at first seem totally incompatible with Schenker's analysis, but this is not the case. Schenker's foreground progression is simply recast as a middleground; the true foreground would include every verticality as a harmonic entity – as a *chord*, complete with an identifiable temporal location, color, roman numeral, function, and hierarchical position. As we move away from the surface, nonharmonic tones would be used to explain Schenker's CHORD M as it is reduced out of the graph, in exactly the same way as the preceding IV, CHORD L, would necessarily be reduced out and explained as the result of nonharmonic tones as we move toward the 3-line *Ursatz* (which by definition includes only I and V chords). (William Drabkin has pointed out (Drabkin 1996: 152) that the  $\hat{2}$  harmonized by V in the *Ursatz* 'is itself an instance of consonant passing tone, when viewed from the highest structural level', because the  $\hat{2}$  originates as 'a dissonant passing note against the chord of Nature'.) By treating CHORD M's various characteristics as distinct and, to a certain extent, independent, we can unproblematically identify the verticality as an AM I chord, no matter how we hear it operating syntactically and hierarchically.

The five chord-identifying categories of Table 1 offer a systematic way of articulating degrees of harmonic similarity and dissimilarity while at the same time acknowledging all sonorities as chords. This method gives tonal-harmony teachers access to the very surface of harmony, without compromising the insights of deeper analytical levels. Using this method in no way *requires* us to recognize every sonority with its own chordal symbol; instructors simply gain the *option* of analyzing any and every sonority as a chord. We can still deploy the designation 'nonharmonic tone'

and interpret sonorities according to imagined root-position and first-inversion triadic abstractions. But when we do so, we should recognize that we are analyzing at a level removed from the surface. At the true surface, every sonority is a chord, and nonharmonic tones are not operative. The only thing we lose in this new method is the possibility of saying 'that sonority is not a chord'; this sentiment has been replaced with 'that sonority is not a chord on some particular analytical level'. The choice of which chords and levels to focus on remains the instructor's.

Yet even at the surface this method does not force us into any specific analysis. In the piano's opening gesture in 'Thränen', an instructor may be very 'in the moment' about the note content when deciding which notes are chordal roots, and may analyze CHORD K as a second-inversion  $F\sharp m VI$ . On the other hand, an interpretation of the surface that takes into account the deeper harmonic motion of the initial CHORD J (tonic I) to CHORD M (subdominant or predominant IV) might treat the piano's stepwise descent as irrelevant to the chordal root, and thus CHORD K might be a first-inversion  $AMadd6$  tonic I (with no fifth). The only true requirement for the foreground in this theory is that the notes of any and every verticality be considered chord tones; what part of the chord these tones operate as is a matter of interpretation.

This interpretative leeway also applies to musical performance. For instance, when playing the Beethoven passage of Example 2, a pianist has the option of bringing out the middle-ground level where FM I progresses directly to CM V, which might lead her to phrase the descending melodic line as one large gesture. Conversely, if the pianist wants to foreground the foreground, she might emphasize the tension and relaxation between all of the chords by stressing the melodic  $B\flat$  into A, G into F, and F into E.

These five chordal categories cover all of the characteristics of harmonies typically emphasized in the North American tonal-harmony classroom. This list is not *exhaustive*: there is room for the refinement of current categories (especially in the case of ‘color’) and also for the addition of new ones. But even as they stand now, these categories are demonstrably useful in articulating a range of harmonic structures and the relationships between them. This is true not only for classical chords but also for rock chords. Of course, this new system does not represent a purely *emic* pop-rock perspective – indeed, it is much closer to traditional classical harmonic theories in its employment of tonal levels and the degree of interpretative flexibility that goes with them. Yet this method does, at the very least, emerge out of an attempt to be sensitive to the musical ‘Other’, and empowers instructors to say something meaningful about both classical and pop-rock repertoires without betraying the opinions of either side.

I will briefly demonstrate this method’s application to pop-rock music by comparing the songs listed in Table 2. These six songs feature variations on the same underlying harmonic model: the 12-bar-blues cadence.<sup>15</sup>

The first song, Little Richard’s ‘Tutti Frutti’ (1955), represents the progression normally encountered in a pop-rock 12-bar blues: V-IV-I (Tagg 2009: 209-10). This kind of progression, or ‘retrogression’ (Stephenson 2002: 101; Carter 2005), has been termed a ‘softened blues cadence’ by Schenkerian theorist Walter Everett (2004: §18). The softening is achieved by the IV, which is understood as a passing embellishment of the much stronger, underlying resolution of dominant V to tonic I. The passing seventh of the V chord is harmonized with its own chord, in a manner similar to the passing AM I – Schenker’s interpretation of CHORD M – from the graph of ‘Thränen’. The softening chord has ‘no harmonic value’ in Everett’s reading, which is to say it is not a true, functioning chord.<sup>16</sup> As with

Table 2

Different chords in 12-bar blues cadences.

1	Model cadence, Little Richard, ‘Tutti Frutti’		
	major V dominant	IV (passing) subdominant	I tonic
2	Coloristic identity, The Jimi Hendrix Experience, ‘Little Miss Lover’		
	minor V7 dominant	minor V7 – $\flat$ VII – $\sharp$ VII	I7
3	Roman numeric identity, The Doors, ‘Riders on the Storm’		
	$(\flat$ III – ) $\flat$ VII dominant	$(\flat$ VII – ) $\flat$ VI	I
4	Functional identity, Led Zeppelin, ‘Custard Pie’		
	V	$\flat$ VII7sus4 dominant – $\flat$ VI – $\flat$ VII	I
5	Temporal identity, T. Rex, ‘20th Century Boy’		
	IV pre-dominant	V dominant	I
6	Hierarchical identity, The Rolling Stones, ‘Hide Your Love’		
	$\flat$ VI pre-subdominant	IV	I

15 See also the relevant discussion of chord substitution, subtraction, and addition in 12-bar blues examples in Doll (2009).

16 Schenker himself (1954: 224) gives two examples of V-IV-I from Brahms Symphonies in his *Harmony*. Schenker indicates that the IV in these cases is of greater harmonic value than the V, although he seems to hedge when he states that the general ‘character’ of the plagal cadence is ‘defined merely by’ the IV even though the V is also ‘an essential part of the character’. See also Lilja (2009: 78-80).

Schenker's analysis of 'Thränen', we can integrate Everett's softened blues cadence within this article's proposed method, save for the treatment of IV as having no harmonic value – its function might be called 'passing subdominant' (Doll 2007: 48-52).

Whether all instructors would accept Everett's sensitive analysis or not is immaterial for present purposes, although we should note that his interpretation is supported by the fact that many 12-bar blues cadences leave out the IV entirely, instead using dominant V for two measures before resolving directly to tonic I. In any event, the chords in the remaining five songs can be measured against this interpretation of the model cadence heard in 'Tutti Frutti' to illustrate the five chord-identifying categories (which will be presented in a slightly different order from before). Table 2 presents the relevant differences in bold.

In the second song, The Jimi Hendrix Experience's 'Little Miss Lover' (1967), the dominant is a minor minor-seventh chord; thus, the *color* of this chord – most notably the pitch-class content of the underlying triad (minor versus major) – distinguishes it from the model's chord. The chordal seventh, which may or may not be considered part of a model 12-bar blues cadence, also contributes to the differentiation in color between Hendrix's and Richard's specific chords.<sup>17</sup>

The third song, The Doors' 'Riders on the Storm' (1971), puts dominant-functioning  $\flat VII$  – itself embellished by  $\flat III$  – in place of dominant-functioning V, thus creating a difference in *roman numeral*. Again, depending on the specifics of the function theory for any given tonal-harmony instructor, the model's V and The Doors'  $\flat VII$  may be considered also to have different *functions*. In my own view they are the same function, and thus this example contrasts with the fourth song, Led Zeppelin's 'Custard Pie' (1975), which is a more straightforward case of a difference in function. Zeppelin substitutes dominant-functioning  $\flat VII7sus4$  for the model's passing, subdominant-functioning IV. The model's IV chord *relaxes* the dominant-to-tonic motion, while Zeppelin's  $\flat VII7sus4$  *in-*

*tensifies* it. The  $\flat VII7sus4$  still embellishes the longer-range progression from the preceding V to the ensuing I, and therefore is still hierarchically equivalent to the model's IV; rather than softened, it is a hardened authentic cadence (Zeppelin's chord is itself embellished from below by neighboring  $\flat VI$ , which resolves back up to dominant  $\flat VII$  before moving to tonic I).

In the cadence of the fifth song, T. Rex's '20th Century Boy' (1973), IV precedes V. In other words, V and IV have simply changed *temporal locations* in reference to the model cadence. Explaining T. Rex's cadence as a swap requires that we understand the V chords as equivalent harmonies in some way, likewise for the IV chords. The equivalency in question is represented by their coloristic and roman numeric identities. While both the V pair and the IV pair are non-equivalent in regard to their temporal identities, the IV chords are also distinct from one another in terms of function: the model's IV is a passing subdominant; T. Rex's IV is a pre-dominant. A case might be made additionally that the *hierarchical position* of the IV chords is somewhat different, since T. Rex's IV is directly subordinate only to V and not also to I (as it is in the model). A stronger case for a difference in hierarchical position could be made if we heard T. Rex's harmonies as *transformed* instead of swapped. In this analysis, the IV chord in '20th Century Boy' would be a mutated V, and the V chord a mutated IV. Thus, the model's V and T. Rex's IV, and the model's IV and T. Rex's V, would be the same harmonies in terms of temporal location, but different harmonies in terms of color (regarding actual pitch-class content), roman numeral, function, and hierarchical position: the model's dominant V is *superordinate* to its ensuing passing subdominant IV, while T. Rex's pre-dominant IV is *subordinate* to its subsequent dominant V.

An even clearer example of difference in hierarchical identity can be found in the sixth and final song, The Rolling Stones' 'Hide Your Love' (1973). Here, we encounter  $\flat VI$  instead of the model's V. The hierarchy of the two pre-tonic chords is turned upside down:  $\flat VI$  sounds like an embellishment of the following subdominant IV, so  $\flat VI$  could be said to function as a

17 In the Hal Leonard published transcription of 'Little Miss Lover' (Hendrix 1989: 114-119), a notable curiosity is found: the designation 'N.C.' for no chord. It is an odd marking because there is usually a discernible chord in effect whenever it is used. 'N.C.' is a standard transcriptional designation, found in many pop-rock publications, but the motivation behind and rules for its use are not altogether clear.

‘pre-subdominant’ (Doll 2007: 26-27). The only identifying category that the model’s V and the Stones’  $\flat$ VI have in common is temporal location. This temporal equivalence is the only real reason why we would bother to compare the  $\flat$ VI with the V in the first place.

The five categories of chordal identity proposed in this article not only accommodate the harmonic-driven outlook of pop-rock musicians, who often regard all accompanimental sonorities as chords – they also represent a way of measuring chordal similarity and dissimilarity, a task traditionally performed in part by the classical distinction between ‘chord’ and ‘non-chord’. Additionally, use of these five categories to identify chords facilitates a certain level of precision hitherto unavailable in some problematic and controversial areas of classical theory, and improves the ability of tonal-harmony teachers to reconcile differing classical theories in the classroom. This is most apparent with regard to cadential  $\frac{5}{4}$  chords: by distinguishing between roman numeric, functional, and hierarchical identities, we can alleviate concerns over calling such chords ‘I’. They are I chords *automatically*, but are functionally and hierarchically distinct from I chords that function as tonics. The use of a single roman numeral for both tonic I and the cadential  $\frac{5}{4}$  is further supported by the fact that musicians for a long time have recognized an obvious affinity between these two kinds of chords: for instance, Schoenberg (1978: 143-5) states that the progression I-IV-I $\frac{6}{4}$ -V-I is explainable by treating the middle chord as either tonic or as an ornamentation of V, as though it were both simultaneously.<sup>18</sup> Our identifying this verticality as I $\frac{6}{4}$  as opposed to the first half of V $\frac{6}{4}$ - $\frac{5}{3}$  also enables us to manage with ease passages in which the cadential  $\frac{5}{4}$  appears in ‘inversion’: that is, as I $\frac{5}{3}$  or I $\frac{6}{3}$ .<sup>19</sup> (An inverted I $\frac{6}{4}$  as part of the progression I-IV-I( $\frac{6}{4}$ )-V-I is similar to what Schoenberg was describing when he analyzed CHORD M in ‘Thränen’ as supporting a consonant passing tone, notwithstanding CHORD M’s weak metrical placement in relation to the V). In a somewhat perplexing move for a Schenkerian theorist, David Beach has argued that a caden-

tial  $\frac{5}{4}$ , despite its primarily non-harmonic nature in traditional Schenkerian teaching, can operate as a would-be tonic supporting  $\hat{3}$  in a 5-line *Ursatz* (Beach 1990a); this would seem to align Beach with Schoenberg.<sup>20</sup> In related cases of the cadential figure V $\frac{5}{4}$ - $\frac{5}{3}$  (a favorite of Bach), the V $\frac{5}{4}$ , which can also be written V<sub>4</sub>sup4, is as much a full-blown chord as I $\frac{6}{4}$ , since the classical requirement that chords be triadic is no longer needed. Cases such as these illustrate that the new five categories of chordal identity do not simply complicate the teaching of tonal harmony; rather, they sharpen our theories’ explanatory potential by offering multiple ways of conceptualizing any given sonority and its relationships with other sonorities.

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18 On interpreting the middle I in the progression I-IV-I-V-I, see also Hauptmann (1991: 9), Riemann (2000), Agawu (1994), Schachter (1999), Kielian-Gilbert (2003: 75-77), and Rehding (2003: 68-72).

19 See also Cutler (2009: 196-202), Hatten (1994: 15 and 97), Kresky (2007), and Rothstein (2006: 268-277).

20 See also Beach (1990b), Cadwallader (1992), Lester (1992), and Smith (1995).



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