

TRANSFORMATION IN ROCK HARMONY: AN EXPLANATORY STRATEGY*

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One of the most common ways of explaining a musical passage is by relating it to some other musical passage. Often, along the way, we invoke a notion of transformation: one passage is understood, for various stated or unstated reasons, as a transformed version of another.¹ This explanatory strategy is so commonplace that it is frequently transparent, in the sense that we are hardly aware we are employing a strategy at all. For instance, no seasoned musician would think twice about speaking of musical “ornaments” or “embellishments.” These concepts are fundamental to our understanding of music, but they themselves are predicated on a transformational relationship between that which is embellished and the sonic product of embellishing. We might be given the chance to compare, by ear, the altered and unaltered versions, as with a Baroque *double*; in this case, the two compared structures are actualized in sound, diachronically displayed—the original followed by a variation. On the other hand, we might never get to hear the undecorated version, as when a note in a score comes to us already adorned with a trill; in this case, we must use our auditory imagination to create an unornamented,

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¹ The notion of transformation explored here is different from the mathematical one of “transformational theory” (as in David Lewin, *Generalized Musical Intervals and Transformations* [New Haven: Yale University Press, 1987]). For an application of transformational theory (specifically, Neo-Riemannian theory) to rock harmony, see Guy Capuzzo, “Neo-Riemannian Theory and the Analysis of Pop-Rock Music,” *Music Theory Spectrum* 26/2 (2004): 177–99.

hypothetical sound. In both cases, the compared structures are, on some level, *the same*: in a word, the structures are linked by way of *transformation*.

Musical transformation is an extremely broad, abstract explanatory concept, capable of covering not just instances of radical conversion but, in fact, *all* degrees of musical change.² Accordingly, transformational explanations run the full range of the empirical/rational gamut.³ Consider Schenker's often-cited essay on Beethoven's Third Symphony, which reveals how to understand the first movement as an elaboration of a simple $\hat{3}-\hat{2}-\hat{1}$ descent (over a $\hat{1}-\hat{5}-\hat{1}$ bass).⁴ This imaginary melody—the movement's *Urlinie*—is so abstracted from the sonic surface that it is reasonable to consider it more an intellectual construct and less a possible—let alone plausible—object of direct experience.⁵ To get from Schenker's "fundamental line" to Beethoven's symphonic score (or vice versa), we must summon transformative powers of the highest order. But not all transformations are so fantastic; some correspond to a more direct aural effect. A "theme and variations" is an obvious case in point: the very name reflects an experience reasonably accessible to many listeners. (For that matter, voice-leading transformations of the

² This loose approach to the term transformation makes sense if we consider musical difference and sameness to be defined only according to some level of abstraction (for example, two things that are different on one level can be the same on another level). Accordingly, a transformation, which by definition relates two different objects that are the same at *some* degree of abstraction, can occur on various levels (that is, to varying degrees). See also Dora Hanninen, "A Theory of Recontextualization in Music: Analyzing Phenomenal Transformations of Repetition," *Music Theory Spectrum* 25/1 (2003): 59–97; and John Rahn, "Repetition," in *Music Inside Out: Going Too Far in Musical Essays* (Amsterdam: G+B Arts International, 2001): 7–19.

³ Here I use "empirical" and "rational" very casually, to denote "experientially based" and "intellectually based" respectively. For an introduction to the old philosophical debate between empiricism and rationalism, see Peter Markie, "Rationalism vs. Empiricism," *Stanford Encyclopedia of Philosophy* (2008), <http://plato.stanford.edu/entries/rationalism-empiricism>.

⁴ Heinrich Schenker, "Beethoven's Third Symphony: Its True Content Described for the First Time," trans. Derrick Puffett and Alfred Clayton, *The Masterwork in Music*, Vol. 3 [1930], ed. William Drabkin (New York: Cambridge University Press, 1997): 10–68.

⁵ At the very least, I can say I have never, despite my best efforts, *knowingly heard* this symphonic movement as a series of elaborations of those three harmonized melodic tones. This fact doesn't contest the insights of Schenkerian theory; it just suggests that the *Urlinie* of this movement, when considered as a melody to be heard in our inner ear, is better placed on the rational side of the transformational continuum.

Urlinien of shorter, less complex pieces might also border on the aurally obvious.) Such experiential transformations, if not always *self-evident*, are often evident from composers' instructions—from the briefest trill-mark, to the form-indicating title of a movement of a symphony or suite.

When it comes to rock,⁶ transformations are among the most powerful and talked-about musical effects. Many of these effects are harmonic, and this article seeks to give voice to a number of these.⁷ To this end, I will present several musical examples from the rock repertoire that will help clarify some common kinds of harmonic transformations, as well as some common kinds of harmonic structures involved in such transformations. The broadest categories of transformational types will be defined according to cardinality: specifically, according to whether the number of constituent chords is the same or different between the *transformee* and the *transformed*. Transformations involving no alteration in the number of harmonies will be treated as examples of that phenomenon known widely as “chord substitution.” Transformations entailing a change in the number of sonorities shall be called either “chord addition” or “chord subtraction” depending on the action's direction.⁸ Both substitution and addition/subtraction deserve close attention, which they will receive in Part I.

⁶ As I use the term, *rock* comprises a diverse spectrum of styles over several decades, from roughly the 1950s up to the present. This article covers styles as diverse as rhythm and blues, heavy metal, country pop, reggae, and new wave. See also Walter Everett, “Making Sense of Rock's Tonal Systems,” *Music Theory Online* 10/4 (2004), http://mto.societymusictheory.org/issues/mto.04.10.4/mto.04.10.4.w_everett_frames.html, §4.

⁷ Not all of rock harmony's characteristic transformational effects will be scrutinized here. Among those left unexamined will be *transposition*, and the more interesting *reorientation* (which describes the effect of one centric pitch class being replaced by another and, in turn, altering the hierarchy and harmonic functions of a given succession).

⁸ See also Charles J. Smith, “Prolongations and Progressions as Musical Syntax,” in *Music Theory: Special Topics*, ed. Richard Browne (New York: Academic Press, 1981), 158–60.

PART I: TYPES OF HARMONIC TRANSFORMATIONS

Substitution.

Peter Winkler gives a clear-cut account of what pop musicians normally mean by “chord substitution”:

According to this notion, a given chord may be replaced by any one of a number of others without disturbing the sense of the progression, rather like substituting bulbs of different colors on a string of Christmas lights. Of course, any old chord won't do: the substitute must have the same function (tonic, dominant, subdominant, etc.).⁹

A dominant, then, can swap with a different dominant, as a $\flat\text{II}^7$ might do with V^7 in a jazz improvisation (a common occurrence known as a “tritone substitution”).¹⁰ “Substitution” in this sense describes a subtle transformation of a harmonic succession, in which one chord exchanges with a different, though similar, chord. (This definition will suffice for now, but later on it will be expanded beyond successions to include transformations of individual chords.) Typically, the metric for similarity in this context is harmonic function (as Winkler suggests), but the metric for dissimilarity is more elusive. At what point would we say that a change of chord has occurred at all? A good answer would be “When we would assign a new Roman numeral,” but this is not the only possibility. Surely, a chord can be identified in ways other than with Roman numerals; indeed, harmonic function itself can be understood as an expression of chordal identity.¹¹ In other words, since we have more than one option when defining harmonic difference and sameness,

⁹ Peter Winkler, “Toward a Theory of Popular Harmony,” *In Theory Only* 4/2 (1978), 8.

¹⁰ See, for instance, Nicole Biamonte, “Augmented-Sixth Chords vs. Tritone Substitutes,” *Music Theory Online* 14/2 (2008), <http://mto.societymusictheory.org/issues/mto.08.14.2/mto.08.14.2.biamonte.html>.

¹¹ I am not suggesting that harmonic function *must* be understood this way; even for its inventor, Hugo Riemann, “function” appears to have had different senses. See Riemann, *Harmony Simplified*, trans. H. Bewerunge (London: Augener, 1896 [1893]). For more, see Daniel Harrison, *Harmonic Function in Chromatic Music: A Renewed Dualist Theory and an Account of Its Precedents* [Chicago: University of Chicago Press, 1994]; and David Kopp, “On the Function of Function,” *Music Theory Online* 1/3 (1995), <http://mto.societymusictheory.org/issues/mto.95.1.3/mto.95.1.3.kopp.art.html>.

“chord substitution” can be theorized as covering various subcategories of substitution distinguishable by the terms of identity involved (of which Roman numerals are but one).

The following musical examples will help illustrate four substitutional types—Roman numeric, coloristic, functional, and hierarchical—that are useful in articulating a wide array of transformational effects. Most of these examples are analytical reductions featuring only basic metric, durational, and pitch-class information; the registral placement of chordal members is not indicated, except for the relative positioning of bass notes on the bottom. The key signatures are only notational conveniences: they are used merely to keep accidentals to a minimum, and should not be taken as indicators of tonal center or mode. Roman numerals will be assigned according to the scale degrees of chordal roots, independent of actual pitch content (e.g., the chord on the subtonic is always \flat VII, regardless of the key signature).¹²

In the chorus to Talking Heads’ “Psycho Killer” (1977), shown in Figure 1, the tonal center A (established in the preceding verse) is confirmed by a \flat VI– \flat VII–I progression. Following this confirmation comes an alternative sequence, \flat VI– \flat VII– \flat III. Hearing the second progression in terms of the first, we can experience CM (\flat III) as a substitute for Am (I).¹³ (It’s also possible to hear Am retroactively as a substitute displaced by the proper tonic CM, but only if we ignore the previous establishment of center A.) The harmonic function of both chords, in their respective successions, is to provide a moment of resolution and stability: they are local

¹² Chordal roots will be sufficient for Roman numeric assignment; a third and fifth need not be present. The numerals of chords built on the minor second, minor third, minor sixth, and minor seventh above tonic are all prefixed with a flat, while the numerals of chords built on the members of the major scale are left without prefix.

¹³ It is important to realize that this hearing is not predicated on our *expecting* the I chord to occur again; the resemblance between the progressions itself is enough to suggest comparison. Naturally, expectation often plays a role in specific contexts, but expectation is not a universal prerequisite for hearing transformations.

FIGURE 1. Talking Heads, “Psycho Killer” (from chorus)

A: \flat VI \flat VII I \flat VI \flat VII \flat III

"Psycho Killer, qu'est que c'est?... better run run run run run run run away"

tonics.¹⁴ (Again, since A is the global tonal center, CM is only a local—not global—expression of stability.) Moving from one succession to the next, we hear the Roman numerals change but the local harmonic function remaining the same. I’ll label this type of transformation *Roman numeric chord substitution*.

Of course, we could instead say that “Psycho Killer” briefly modulates to, or tonicizes, CM, in which case we would probably write the FM–GM–CM succession as “IV–V–I.” There is nothing wrong with this explanation, except that it doesn’t really capture the quality of transformation created by the individual CM triad (instead, it focuses on the reorientation of its three-chord succession as a whole). To get at the single-chord effect, we are better off keeping the Roman numerals focused on the same point—the song’s global tonal center of A—and using our functional descriptors independently of our Roman numeric labels. This separation of the expressions *tonic* and *I* (and the association of *tonic* with \flat III) might strike some theorists as quirky and perhaps even blasphemous, despite the fact that most of us already admit multiple Roman

¹⁴ Walter Everett notes that this song “alternates its allegiance between relative major and minor as easily as it moves between English and French [in its lyrics]” (Everett, “Confessions from Blueberry Hell, or, Pitch Can Be a Sticky Substance,” in *Expression in Pop-Rock Music: A Collection of Critical and Analytical Essays*, ed. Walter Everett [New York: Garland Publishing, 2000], 312). The distance the disturbed narrator wants to put between himself and the person to whom he is speaking also lines up with the tonic dichotomy illustrated in Figure 1, with the word “away” landing on the CM departure. Additionally relevant to the song’s poetics of binaries is the juxtaposition of tonic-chordal qualities between verses (AMm7) and choruses (Am).

FIGURE 2. The Troggs, “Wild Thing”

A: I IV V IV I
 tonic pre-dominant dominant subdominant tonic

numerals to the functional categories of dominant (V, VII) and pre-dominant (IV, II). Yet permitting a many-to-one relationship for *all* functions facilitates our recognition of the similarity between, for instance, $\flat\text{II}^7\text{-for-V}^7$ and $\flat\text{III-for-I}$: they are both examples of Roman numeric substitution. Conversely, we can simply abandon altogether the awkward assumption that any one Roman numeral entails a specific function. This abandonment would aid the analysis of numerous non-substitutional passages in which a single Roman numeral performs multiple roles, passages such as the repeating I–IV–V–IV–I progression in the Troggs’ “Wild Thing” (1966), shown in Figure 2. Here, the two IVs have different functions: the first, a *pre-dominant*, presages dominant V, while the second, a *subdominant*, predicts resolution to tonic I.¹⁵ Roman numeric identity can thus be thought of as reflecting a chord’s relation to the prevailing tonal center (via the scalar position of its chordal root), while functional identity speaks to a chord’s relationship with other chords. There is much more that could be said along these lines,¹⁶ but pursuing this

¹⁵ The subdominant’s prediction of tonic is initiated by the preceding dominant V; this sort of layered prediction is common in rock, and will be dealt with in more detail later on. For more on pre-dominants versus subdominants, see Harrison, *Harmonic Function in Chromatic Music*, 48–49; Walter Everett, *The Beatles as Musicians: Revolver through the Anthology* (New York: Oxford University Press, 1999), 311; Dmitri Tymoczko, “Progressions Fondamentales, Fonctions, Degrés: Une Grammaire de l’Harmonie Tonale Élémentaire,” trans. Nicholas Meeùs, *Musurgia: Analyse et Pratique Musicales* 10/3–4 (2003), 57; and Kevin J. Swinden, “When Functions Collide: Aspects of Plural Function in Chromatic Music,” *Music Theory Spectrum* 27/2 (2005), 253.

¹⁶ See, e.g., Fred Lerdahl, *Tonal Pitch Space* (New York: Oxford University Press, 2001), 214–31; and Doll, “Listening to Rock Harmony,” 27–34.

topic further would move us too far away from transformation. Suffice it to say, there are good reasons to consider functional and Roman numeric identity as distinct (and we gain nothing from insisting that these identities be equivalent to one another).¹⁷

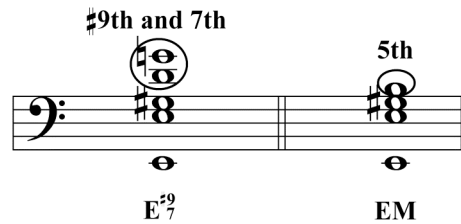
All this said, the expression “Roman numeric chord substitution” risks generalizing too far, as there are many substitutions in which both harmonic function and Roman numeral are left unaltered. For instance, in Lipps, Inc.’s “Funkytown” (1980), the major tonic I chords in the verses turn minor in the choruses (darkening the textual references to the titular town).¹⁸ This transformation does not affect the scale-degree upon which the chord is built ($\hat{1}$), and therefore it does not affect the Roman numeral (though some of us might write “i” versus “I” to indicate the change in quality). Following Winkler’s Christmas light-bulb simile, I’ll call this an example of *coloristic chord substitution*. These types of substitutions can occur diachronically, as heard in “Funkytown,” but they more commonly rely on an imaginary transformee (in the vein of the untrilled note discussed in this article’s introduction). This is the case with so-called altered chords (that is, extended and incomplete triads), such as the tonic harmony from the Jimi Hendrix Experience’s “Purple Haze” (1967), shown in Figure 3. This coloristic substitute is regularly referred to as a “raised-ninth chord” with no fifth; as such, it *expands* its EM-triadic source with D and F \times (usually spelled as G) and *omits* its source’s fifth B.¹⁹

¹⁷ For a different opinion, see John Rothgeb, “Re: Eytan Agmon on Functional Theory,” *Music Theory Online* 2/1 (1996), <http://mto.societymusictheory.org/issues/mto.96.2.1/mto.96.2.1.rothgeb.html>, §11, which states that this sort of approach to Roman numerals “devalue[s] a profoundly meaningful analytic symbol by turning it into a mere mechanical reduction of a trivial transliteration of note-content.” (Rothgeb is objecting specifically to Eytan Agmon, “Functional Harmony Revisited: A Prototype-Theoretic Approach,” *Music Theory Spectrum* 17/2 [1995]: 196–214.)

¹⁸ See also Ken Stephenson, *What to Listen for in Rock: A Stylistic Analysis* (New Haven: Yale University Press, 2002), 48. The opposite effect—brightening the tonic I by switching from minor to major—can be heard about B when moving from rapped to sung sections in the Spice Girls’ “Wannabe” (1996) (Stephenson, *What to Listen for in Rock*, 97). In this case, the major tonic is stated explicitly, while the minor is suggested only by the piano riff.

¹⁹ For instance, see Walter Everett, “Detroit and Memphis: The Soul of *Revolver*,” in “*Every Sound There Is*”: *The Beatles’ Revolver and the Transformation of Rock and Roll*, ed. Russell Reising (Burlington, VT: Ashgate, 2002), 38; Dave Headlam, “Appropriations of Blues and Gospel in Popular Music,” in *The Cambridge Companion*

FIGURE 3. Tonic chord from the Jimi Hendrix Experience's "Purple Haze"



Note that substitution of chordal color is better described as a transformation of a single harmony (which replaces its previous real or imaginary self), contrasting with the above formulation of chord substitution in general as a transformation of a harmonic succession. In truth, all four types of substitution (including Roman numeric) can be understood as involving transformations of a single chord, because we always have a choice as to how abstract or concrete we wish our measurements of chordal sameness and difference to be. For instance, a Roman numeric substitution can involve hearing one functionally stable sonority transformed in terms of its Roman numeral, just as a coloristic substitution can involve hearing a Roman numerically invariant harmony altered in terms of its quality.²⁰ In this light, the local tonic in "Psycho Killer" is substituted with a different version of itself: CM (♭III) for Am (I). In "Funkytown," minor I substitutes for its earlier incarnation as major.

to *Blues and Gospel Music*, ed. Allan F. Moore (New York: Cambridge University Press, 2002), 169; and Rob van der Bliek, "The Hendrix Chord: Blues, Flexible Pitch Relationships, and Self-Standing Harmony," *Popular Music* 26/2 (2007): 343–64. "G" is actually the preferred spelling of the raised ninth, revealing a dependence on an alternative explanation of the chord that treats the ninth as a flattened tenth or extra third derived from the pentatonic-minor mode (E, G, A, B, D). See Naphtali Wagner, "'Domestication' of Blue Notes in the Beatles' Songs," *Music Theory Spectrum* 25/2 (2003), 354–55.

²⁰ Chordal quality, or color, could be further dissected into subtypes such as pitch-class content, pitch content, and timbral/textural content, each with its own corresponding substitutional species. I will stop short of pursuing this degree of refinement here; however, I should say that I find David Brackett's exploration of various standard guitar voicings for major chords to be suggestive along these lines; see Brackett, "Elvis Costello, the Empire of the E Chord, and a Magic Moment or Two," *Popular Music* 24/3 (2005): 357–67.

Deciding whether there has been an alteration only to a chord's color or also to its Roman numeral is a relatively simple process, one dependent on a comparison of the chordal roots. On the other hand, determining whether a full-blown change in function has occurred is a more complicated task. Take, for instance, the transformation of *subdominant* IV, in George Michael's "Faith" (1987), into *dominant* \flat VII, in Limp Bizkit's cover (1997); see Figures 4a–b.²¹ We could hear the underlying function of both chords as the same—pre-tonic. This would be a case of Roman numeric substitution. But we also could hear one function substituting for another—dominant for (pre-tonic) subdominant—in which case we are dealing with another phenomenon altogether, one that falls beyond the usual domain of chord substitution (per Winkler's definition). I call this phenomenon *functional chord substitution*. In the Limp Bizkit song, as in many substitutional situations, the transformational effect can be labeled either "Roman numeric" or "functional." Our designation depends on whether or not we consider function to be changed at the level of *dominant / subdominant / pre-dominant / pre-subdominant*; or whether we hold out for changes at the level of *tonic / pre-tonic / pre-pre-tonic*; or of *leading-tone-containing*

²¹ This alteration augments the concomitant lyrical and stylistic modifications, all pointing to a change in the meanings of the song (more specifically, into hypermasculine parody). This point was explored in Wynn Yamami, "Troubled Embodiment and Sonic Gay-Bashing: Theorizing Covers through George Michael and Limp Bizkit," paper presented April 2004 at the CUNY Graduate Students in Music Seventh Annual Conference, "Intra-disciplinary Approaches to Popular Music Studies" (New York). For discussion of subtonic-containing dominants, see, among many others: Lori Burns, "Analytic Methodologies for Rock Music: Harmonic and Voice-Leading Strategies in Tori Amos's 'Crucify,'" in *Expression in Pop-Rock Music: A Collection of Critical and Analytical Essays*, ed. Walter Everett (New York: Garland Publishing, 2000), 218; Doll, "Listening to Rock Harmony," 16–25; Everett, "Confessions from Blueberry Hell," 329; Timothy Koozin, "Fumbling Toward Ecstasy: Voice Leading, Tonal Structure, and the Theme of Self-Realization in the Music of Sarah McLachlan," in *Expression in Pop-Rock Music* (2000), 248; Allan F. Moore, "The So-Called 'Flattened Seventh' in Rock," *Popular Music* 14/2 (1995): 185–201; Shaugn O'Donnell, "'On the Path': Tracing Tonal Coherence in *Dark Side of the Moon*," in "*Speak to Me*": *The Legacy of Pink Floyd's The Dark Side of the Moon*, ed. Russell Reising (Burlington, VT: Ashgate, 2005), 89; Dominic Pedler, *The Songwriting Secrets of the Beatles* (London: Omnibus Press, 2003), 237–38; Gary M. Potter, "The Unique Role of \flat VII⁷ in Bebop Harmony," *Jazzforschung/Jazz Research* 21 (1989): 35–48; and Ger Tillekens, "A Flood of Flat-Sevenths," in "*Every Sound There Is*": *The Beatles' Revolver and the Transformation of Rock and Roll*, ed. Russell Reising (Burlington, VT: Ashgate, 2002), 121–36.

FIGURE 4. “Faith” (from verse)

(a) George Michael

B: I IV I

"...it would be nice if I could touch your body. I know not everybody has got a body like you"

(b) Limp Bizkit

B: I new function? I

B: I bVII I

"...it would be nice if I could touch your body. I know not everybody has got a body like me"

dominant / subtonic-containing dominant; or of whichever other functional designations we choose to employ.

I see no reason to define arbitrarily which set of functions we should use to mark the boundary between Roman numeric and functional substitution; this decision can be left to the individual analyst. And yet it's appropriate to have such a separation, since certain cases are plainly one and not the other. “Psycho Killer,” for example, replaces local tonic I with local tonic \flat III: this is Roman numeric and *not* functional substitution. Compare it to the verses of “Lost Cause” (2002) by Beck, shown in Figure 5. Here, I–V–IV (phrased as IV–I–V) is followed by I–V–VI; VI substitutes for IV, transforming the function at that point from subdominant (leading toward tonic) to local tonic (temporarily resolving dominant V). While we may consider VI a mere Roman numeric substitute for IV at a deep level, where both chords are simply non-tonics (eventually resolving to I), “Roman numeric chord substitution” does not live up to the VI's initial surface effect; this is a clear example of substitution of function.

Of those substitutions that involve changes in function, some involve alterations to the chordal hierarchy while others do not. Therefore, I'll posit one more brand—*hierarchical chord*

all-out substitution is usually the most drastic of the four identified here, with functional, Roman numeric, and coloristic following in diminishing order of degree of salience. (See the Appendix for a summary of types.)

These four kinds of chord substitution offer a reasonably precise way to express those transformations in which the total number of chords stays the same. Before moving on to transformations involving chordal successions of different cardinalities, I should reveal one complication that I have so far suppressed: even though the four substitutional types can be ranked according to their customary degree of salience, they do not quite nest within one another in terms of degree of transformation. The culprit here is Roman numeric substitution, which is not fully contained by functional and hierarchical substitution (assuming the earlier formulation of Roman numerals as automatic designations of root/center relations). That is, all Roman numeric, functional, and hierarchical substitutions are also coloristic;²² and all hierarchical substitutions are also functional; but *not* all hierarchical and functional substitutions are also Roman numeric. For instance, in the guitar-solo section of Hank Williams' "I'm So Lonesome I Could Cry" (1949), shown in Figure 7, a I major triad is replaced by a I dominant-ninth chord, where the former is a tonic and the latter is a secondary dominant of IV. The I's local chordal hierarchy and harmonic function are altered (via hierarchic and functional substitution, in addition to coloristic) even while its chordal root is maintained (resulting in a stable Roman numeral of I). We should not change the Roman numeral to "V/IV"; we can more easily express the harmony's oblique transformational motion by maintaining a distinction between Roman

²² If we were to think of movement between analytical levels as possibly involving substitution, then there would exist the possibility of functional and hierarchical substitutions that would *not* also be coloristic (as when a tonic I on the surface serves as a dominant V at a deeper level). However, because the chord's color does not change, it is counterintuitive to call this situation a substitution. It makes more sense to say that this type of transformation is simply not covered by substitution or addition/subtraction.

FIGURE 8. Chuck Berry, “No Particular Place to Go”

(a) Cadence from sung section

Figure 8(a) shows a musical staff in 4/4 time with a treble clef. The first measure contains a G major chord (G4, B4, D5) with a Roman numeral 'V' below it. The second measure contains a G major chord (G4, B4, D5) with a Roman numeral 'I' below it. The third and fourth measures contain a G major chord (G4, B4, D5) with a Roman numeral 'I' below it. The lyrics "...the radio" are written under the first measure, and "with no particular place to go" are written under the second measure.

(b) Cadence from instrumental section

Figure 8(b) shows a musical staff in 4/4 time with a treble clef. The first measure contains a G major chord (G4, B4, D5) with a Roman numeral 'V' below it. The second measure contains a D major chord (D4, F#4, A4) with a Roman numeral 'IV' below it. The third and fourth measures contain a G major chord (G4, B4, D5) with a Roman numeral 'I' below it. A rectangular box highlights the second measure.

material in the middle, it makes sense to think of all softened authentic motions (including twelve-bar blues cadences of V–IV–I) as progressions that have undergone chord addition. “No Particular Place to Go” (1964) by Chuck Berry, a song in twelve-bar-blues form, exemplifies this reasoning; see Figures 8a–b. The V–I cadential progressions of the sung sections are adorned during the guitar solo with IV (a harmony effected primarily by the bass’s motion from $\hat{5}$ to $\hat{4}$), creating V–IV–I softened cadences.²⁶ This specific, diachronic example makes plain the way in which softened authentic motion can entail chord addition. That said, the effect of addition is not contingent upon such diachronic comparison; indeed, by definition, hearing a softened motion corresponds to hearing chord addition performed on an underlying progression, whether that pure progression is sounded or not.

Music Theory Spectrum 8 (1986), 113: “it seems . . . plausible to hear such a succession as a transformation of something functional—either as a dominant heading eventually to tonic with linearly interposed dominant preparation, or as a move (usually from tonic) to dominant preparation with linearly interposed dominant.” See also Cristóbal L. García Gallardo, “Schenkerian Analysis and Popular Music,” *Trans: Transcultural Music Review/Revista Transcultural de Música* 5 (2000), <http://www.sibetrans.com/trans/trans5/garcia.htm>.

²⁶ Timothy Taylor notes the reverse effect (i.e., subtraction) in the opening of Berry’s “Johnny B. Goode” (1957): the initial V–IV–I cadence becomes V–I in the first sung verse; see Timothy Taylor, “His Name Was in Lights: Chuck Berry’s ‘Johnny B. Goode,’” in *Reading Pop: Approaches to Textual Analysis in Popular Music*, ed. Richard Middleton (New York: Oxford University Press, 2000), 170.

FIGURE 9. The Wreckers, “My, Oh My” (from verse)

C: ♭VII IV I ♭VII (IV) I

"...long before the Sonic and the Walgreens. Not no more"

Other cases invite the descriptor chord *subtraction*. The manicured bluegrass of “My, Oh My” (2006) by the Wreckers, shown in Figure 9, features a ♭VII–IV–I softened authentic motion (with ♭VII functioning as dominant, and IV as a passing subdominant) that is occasionally streamlined to a non-softened ♭VII–I progression. The middle term is subtracted to yield a more direct harmonic motion, a transformation heightened by the lyric “Not no more” and by the lone measure of $\frac{1}{4}$ devoted solely to ♭VII.²⁷ (Note that the subtractive effect of this particular passage, unlike the additive sound of the Chuck Berry example, does not correspond to a general rule. That is, authentic progressions *in general* are not reduced softened motions, because the definition of the former does not oblige us to invoke the latter.)

Often, a transformation that increases or decreases the number of involved chords can also be heard as a transformation that substitutes one chord for another. In other words, cases of chord addition and chord subtraction frequently can be explained, from a different angle, as cases of substitution. Instructive here is Howlin’ Wolf’s “I Ain’t Superstitious” (1961), which begins its twelve-bar iterations with two measures of IV before stating tonic I; see Figure 10. We can

²⁷ The common rock succession ♭VII–IV–I has been referred to by other theorists as “extended plagal,” “double-plagal,” and “hyperplagal” (see, respectively, Mark J. Steedman, “A Generative Grammar for Jazz Chord Sequences,” *Music Perception* 2/1 [1984], 74; Walter Everett, “The Beatles as Composers: The Genesis of *Abbey Road*, Side Two,” in *Concert Music, Rock, and Jazz since 1945: Essays and Analytical Studies*, ed. Elizabeth West Marvin and Richard Hermann [Rochester: University of Rochester Press, 1995], 219 n. 30; and Naphtali Wagner, “Fixing a Hole in the Scale: Suppressed Notes in the Beatles’ Songs,” *Popular Music* 23/3 [2004]: 257–69). These terms favor the parallel-root-interval motions over the dominant-tonic potential of ♭VII–I.

verses of “I Ain’t Superstitious”) and IV and V to the end (creating a startlingly straightforward IV–V–I cadence).²⁹

So far, this article has focused on three basic types of harmonic transformational effects: substitution, addition, and subtraction. The next section takes a closer look at the real and imaginary structures that are invoked when songs project those effects. I find it most useful to generalize these structures in terms of *types of transformees*. Part II concerns itself with three of the most influential of these types: norms, precedents, and (in)complete structures. The discussion will begin by trying to untie one of the knottiest kinds of transformational explanations around, those that rely on the musically “normal.”

PART II: TYPES OF HARMONIC TRANSFORMEES

Normality.

Musicians often make appeals to the “normal,” the “normative,” “norms,” or “the norm.” Joseph Straus goes so far as to claim that this practice “underpins every theory of tonal harmony post-1850.”³⁰ Rock theory is no exception. For instance, Walter Everett’s important article “Making Sense of Rock’s Tonal Systems” (2004) offers many such citations. Among them are the following:

Schenker’s methods are useful not only for showing how songs are tonally *normal*, but in showing precisely in what ways songs deviate from conventions.

²⁹ For discussion of combining chord substitution with chord addition, see also Richard Bobbitt, *Harmonic Technique in the Rock Idiom: The Theory and Practice of Rock Harmony* (Belmont, CA: Wadsworth Publishing Co., 1976)—though “chord addition” is not a term used by Bobbitt.

³⁰ Joseph N. Straus, “Normalizing the Abnormal: Disability in Music and Music Theory,” *Journal of the American Musicological Society* 59/1 (2006), 143, n. 71. He finds this practice to be coeval with a similar practice in writings on bodily disability. See also Neil Lerner and Joseph N. Straus, eds., *Sounding Off: Theorizing Disability in Music* (New York: Routledge, 2006); and Bruce Quaglia, reviews of Lerner and Straus, *Sounding Off*, and Straus, “Normalizing the Abnormal,” *Music Theory Online* 13/2 (2007), <http://mto.societymusictheory.org/issues/mto.07.13.2/mto.07.13.2.quaglia.html>.

Steely Dan's *Two Against Nature* . . . typically evidences highly *normative* goal-directed voice leading and intensive counterpoint but jazz-based harmonies that may undercut function or otherwise refer to *norms* only obliquely through distant chromatic substitutions.

Comparison to *the norm* and to a history of related approaches is what provides that information [about what's unusual in the piece at hand].³¹

The relevant idea at work in passages such as these is that of *resemblance*: the song in front of us resembles, to some degree, music as it generally or “normally” goes. But of course, as Everett suggests, it is really *deviation* that gives this kind of explanation its power.³² In the terms laid out in Part I, deviation from a norm is a kind of transformation, one in which the transformee is a hypothetical structure not tied to any particular manifestation.

Needless to say, “normal” has other connotations. It can be taken to signify “healthy” or “balanced,” or even “good” or “correct.” In other contexts, it indicates something closer to “ordinary” in the pejorative sense. Musicians exploit all these meanings when talking about music, but for the sake of clarity I will refrain from doing so here. Indeed, I propose that—unless there is a good reason in some specific situation to do otherwise—we should adhere to the meaning “statistically predominant within a repertoire of real music” when referring to musical structures as normal.³³ This recommendation seems straightforward enough, yet it actually goes against the discipline's conventional grain: many widely used expressions, such as “normal form” (or “normal order”)³⁴ and “rhythmic normalization,” don't operate this way. Rather, the

³¹ The quotations are from, respectively, §§8, 30, and 9; emphasis added in each instance. In the last instance, the words in brackets (excepting “about”) are taken from the sentence immediately preceding the quotation. Everett sometimes adorns “normal” with quotation marks, but “norm” and “norms” never appear in quotes.

³² See also Leonard B. Meyer, *Emotion and Meaning in Music* (Chicago: University of Chicago Press, 1956), 197–255.

³³ By invoking *statistics* here, I do not mean to suggest that our norms necessarily be derived from bean-counting; I would include assessments via informed intuition as a kind of statistical analysis. See also Doll, “Listening to Rock Harmony,” 63–68.

³⁴ “Normal form” originates in Milton Babbitt, “Set Structure as a Compositional Determinant” [1961], in *The Collected Essays of Milton Babbitt*, ed. Stephen Peles, Stephen Dembski, Andrew Mead, and Joseph N. Straus

music posited as “normal” by such terms is normal only in the sense of being a standard determined by academic authority. The norms in the cited cases could be considered statistically predominant, but only in a repertoire of explanatory structures that are apart from, and that often do not much resemble, those of musical practice.³⁵ Now, obviously, we can define our technical terms in any way we like. But in the absence of explicit definition, it’s misleading for us to call certain structures “normal” when they do not represent common events in the body of music in question. This is not to deny the power of explanations invoking such non-normal structures; my point is that either we should make it clear that “normal” has a specialized meaning in these cases, or we should use a different term. Once semantics are settled, we will be in better shape to deal with questions concerning which bodies of music to use in determinations of normality, and which derived norms work best in our explanations of various musical effects.

For the purposes of this article, the boundaries for normality fall at the edges of “rock” construed broadly (although naturally this represents only one of several possible fields of norms). Transformations of rock’s normal harmonic structures occur when a passage invokes one of these structures but doesn’t run exactly parallel to it. The parallels need not be entirely chordal in nature; the invocation of a harmonic norm often involves the collaboration of various

(Princeton: Princeton University Press, 2003): 86–108. Its equivalent, “normal order,” comes from Allen Forte, “A Theory of Set-Complexes for Music,” *Journal of Music Theory* 8/2 (1964): 136–83. Both terms are borrowed from mathematics and the sciences.

³⁵ *Normal form* for a collection of pitches is, as put by Joseph Dubiel, “no more meaningful than alphabetical order for a set of words” (Dubiel, “Distance, Direction, and Order,” self-published class notes [Columbia University, 2005], 8). It is a representation of something other than the music we care about. (We could say that it is a representation of one aspect of the music’s *structure*.) By comparison, *rhythmic normalization* usually asserts more similarity between norms and particulars, but the norms are still idealizations. (In William Rothstein, “Rhythmic Displacement and Rhythmic Normalization,” in *Trends in Schenkerian Research*, ed. Allen Cadwallader [New York: Schirmer Books, 1990], the first example of rhythmic normalization comprises a passage of fourth-species counterpoint that is reduced to its first-species cousin, with the latter representing the *normal* version of the music. First-species is more normal than fourth in that it is more *standard* by virtue of its being *simpler*, but first-species does not more resemble, say, Palestrina’s actual music than does fourth-species. “Normal” here thus could be construed as a code word for “simple.”)

FIGURE 12. Transformed norm

(a) David Bowie, “The Prettiest Star” (from verse)

F: I VI \flat VII-I III V

"Cold fire, you've got everything but cold fire. You will be my rest and peace, child. I moved up to take a place near you"

(b) Normal progression (1950s/'60s schema)

F: I VI IV V

kinds of musical information. Illustrative of this point is David Bowie’s “The Prettiest Star” (1973), a song that warps the 1950s/’60s schema I–VI–IV–V; see Figures 12a–b. Bowie gives us a repeating, eight-measure progression similar to that of assorted early rock-and-roll and Motown records, but one that strays from the chordal formula halfway through: VI ventures to a disorienting \flat VII–I polychord,³⁶ which twists into a major-minor seventh chord on III (substituting for IV). This harmonic mutation stands out against the song’s various antiquated extra-harmonic sounds—the doo-wop backing vocals, the nostalgic hand claps, and the upper-register triplets in the piano. Thus, the song’s effect of invoking a harmonic schema stuck in time, a schema realized only in distorted form, is aided by sonic elements outside the usual purview of harmonic theory.³⁷

³⁶ The disorientation created by the polychord stems not only from its transformative role but also from its slippery identity: with the pitch-class emphases changing upon repetition of the progression, the sonority ranges from a kind of I, to a kind of \flat VII, to a blend of both. Additionally, the chord can be interpreted as an eleventh chord on I, which, if heard as projecting a secondary-dominant function in anticipation of IV, could be taken as further evidence to suggest our ears’ expectation of an appearance of that normal chord.

³⁷ An earlier version of this song recorded by Bowie in 1970 is less obviously nostalgic for fifties rock (it doesn’t feature the backing vocals, hand claps, and piano triplets); consequently, the harmonic transformations are much less pronounced, even though the chords are mostly the same.

Transformations of rock's harmonic norms are ubiquitous. Several in fact are so standard that they are justly considered norms in themselves.³⁸ Among the most prominent of these are the various conventional versions of the twelve-bar blues.³⁹ The most basic version features twelve measures of $\frac{4}{4}$ in three parts; see Figure 13. The first part comprises four measures of tonic I; the second part introduces two of subdominant IV, then two of tonic I; and the third part offers either an authentic or softened authentic cadence from dominant V to tonic I.⁴⁰ One standard transformation here is to feature IV at the beginning of the sequence, as shown in "I Ain't Superstitious" and "Pigs on the Wing (Part Two)" (refer again to Figures 10 and 11). Another is to employ a turnaround dominant V in the twelfth measure; for an example, listen to James Brown's "Papa's Got a Brand New Bag" (1965). Any sonority in the twelve-bar succession can be extended in duration—evidenced by the doubly-long (twenty-four-bar) verses of Led Zeppelin's "Rock and Roll" (1971)—or repeated—demonstrated in the middle section (IV–I) of Little Richard's "Rip It Up" (1956).⁴¹ The harmonies of a section may be reordered or substituted for each other, as in T. Rex's "20th Century Boy" (1973), which offers a IV–V–I cadence instead of V–IV–I. The

³⁸ Relevant here are the "paradoxes of the 'normative' and 'non-normative'" in James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata* (New York: Oxford University Press, 2006), 614–21.

³⁹ There is a great abundance of scholarly writing on twelve-bar transformations. See, for example: Garth Alper, "How the Flexibility of the Twelve-Bar Blues Has Helped Shape the Jazz Language," *College Music Symposium* 45 (2005): 1–12; Walter Everett, *The Beatles as Musicians: The Quarry Men through Rubber Soul* (New York: Oxford University Press, 2001), 54–55; Walter Everett, *The Foundations of Rock: From "Blues Suede Shoes" to "Suite: Judy Blue Eyes"* (New York: Oxford University Press, 2008); Dave Headlam, "Blues Transformations in the Music of Cream," in *Understanding Rock: Essays in Musical Analysis*, ed. John Covach and Graeme M. Boone (New York: Oxford University Press, 1997): 59–92; Richard Middleton, *Studying Popular Music* (Philadelphia: Open University Press, 1990), 197–201; Alan M. Perlman and Daniel Greenblatt, "Miles Davis Meets Noam Chomsky: Some Observations on Jazz Improvisation and Language Structure," in *The Sign in Music and Literature*, ed. Wendy Stein (Austin: University of Texas Press, 1981): 169–83; and Steedman, "A Generative Grammar for Jazz Chord Sequences."

⁴⁰ An example of the simpler I–IV–I–V–I version is Bill Haley and His Comets' "(We're Gonna) Rock around the Clock" (1954); an example of the I–IV–I–V–IV–I type is Ray Charles' "(Night Time Is) The Right Time" (1958). Some songs alternate between the two, as witnessed in "No Particular Place to Go" (Figures 8a–b).

⁴¹ Zeppelin's extension is highlighted by the fact that the song's introduction fits into twelve bars. Little Richard extends his first sections to eight measures.

FIGURE 13. Basic twelve-bar-blues form

first part second part third part
 I I I I I I | IV | IV | I I I | V | V or IV | I I I

FIGURE 14. Led Zeppelin, “Custard Pie” (cadence)

A: V \flat VII \flat VI \flat VII I
 normal progression: V (V or IV) I
"Well I may look like I'm crazy. I should know right from wrong"

FIGURE 15. Bruce Springsteen, “Cover Me” (cadence from verse)

B: \flat VI \flat VII I
 normal progression: (V) (V or IV) I
"Well I'm looking for a lover who will come on in and cover me"

FIGURE 16. Electric Light Orchestra, “Don’t Bring Me Down” (cadence from verse)

A: \flat III \flat VII IV I
 normal progression: (V) IV I
"I'll tell you once more before I get off the floor 'don't let me down'"

normal dominant V may be offset by another dominant; consider Led Zeppelin’s “Custard Pie” (1975), shown in Figure 14: its tenth bar features not IV, elaborating the large V–I cadence, but dominant \flat VII, itself elaborated by pre-dominant \flat VI, creating a local \flat VI– \flat VII–I cadence. Other songs, such as Bruce Springsteen’s “Cover Me” (1984), shown in Figure 15, eliminate V outright in favor of the hierarchical substitute pre-dominant \flat VI, leading to dominant \flat VII. Not surprisingly, a dominant need not be present at all; for example, a series of subdominants (\flat III to \flat VII, \flat VII to IV, IV to I) gets the cadential job done in Electric Light Orchestra’s “Don’t Bring Me

Down” (1979), shown in Figure 16. (And although $\flat VII$ can function as a dominant, in ELO’s case this chord’s dominant potential is overpowered by both the parallel root motions and the lead vocal’s resolution of $\flat \hat{7}$ down to $\hat{6}$ instead of up to $\hat{8}$.)⁴²

It goes without saying that not all transformations of the twelve-bar blues, let alone those of rock’s harmonic norms in general, are so easily dismissed as orthodox. Indeed, there are myriad modifications that are, for all intents and purposes, unique. Many such cases stretch the normal twelve-bar-blues form almost beyond recognition; or, put differently, they *invoke* the twelve-bar harmonic norm but only vaguely *resemble* it. The Beatles’ “Day Tripper” (1965), The Doors’ “Love Me Two Times” (1967), and David Bowie’s “Quicksand” (1971) all fit this characterization by tendering one-of-a-kind twists on their cadences (normally falling in mm. 9–12). “Day Tripper,” shown in Figure 17, gives a major-minor seventh chord on II where V should be, only to settle on temporary tonic VI before hurriedly wrapping things up with a simple V–I bow.⁴³ In similar fashion, “Love Me Two Times,” shown in Figure 18, gets creative in its ninth bar by employing $\flat VII$, $\flat III$, and $\flat VI$ in an arrangement that leads smoothly (via a descending Aeolian scale, $\flat \hat{7} - \flat \hat{6} - \hat{5} - \hat{4} - \flat \hat{3} - \hat{2} - \hat{1}$) out of its brief tonicization of $\flat III$ and into its V–I finale. The

⁴² Mark Spicer states: “The progression $[\flat]VII-IV-I$. . . can be understood as a variant of the progression $V-IV-I$ that closes a typical twelve-bar blues, with $[\flat]VII$ substituting for V ” (Spicer, “Large-Scale Strategy and Compositional Design in the Early Music of Genesis,” in *Expression in Pop-Rock Music: A Collection of Critical and Analytical Essays*, ed. Walter Everett [New York: Garland Publishing, 2000], 106, n. 19). This is true, but actual blues-based examples featuring this succession, such as Link Wray and His Ray Men’s “The Shadow Knows” (1964), are exceedingly rare. (Note that this fact does not directly conflict with Spicer’s point that $\flat VII-IV-I$ can be *conceptualized* in this way.) Naphtali Wagner suggests that the “regressive formula $I-\flat VII-IV-I$ can be understood as a transposition of the blues progression $V-IV-I-V$ (mm. 9–12 in the twelve-bar blues)” (Wagner, “‘Domestication’ of Blue Notes in the Beatles’ Songs,” 362). This is also true, although this idea is perhaps less relevant to twelve-bar blues songs (none of which, to my knowledge, employ such a transposition in m. 9) than it is to songs such as Lynyrd Skynyrd’s “Sweet Home Alabama” (1974) that loop through the succession $V-IV-I, I-\flat VII-IV$ (see Stephenson, *What to Listen for in Rock*, 45–46; and Doll, “Listening to Rock Harmony,” 68–76).

⁴³ That the harmonic excursion can ultimately be subsumed under a twelve-bar-blues hearing fits nicely with Lennon’s sentiment of the titular character as “just a weekend hippie” (G. Barry Golson, ed., *The Playboy Interviews with John Lennon and Yoko Ono*, conducted by David Sheff [New York: Playboy Press, 1981], 150). In other words, deep down, the song is really just a blues, just as the character is really a “big teaser.” See relevant discussion in Everett, *The Beatles as Musicians: The Quarry Men through Rubber Soul*, 316–17.

FIGURE 17. The Beatles, “Day Tripper” (cadence from verse)

normal E: II IV III VI V I
 progression: (V) IV I

"She was a day tripper... It took me so long to find out, and I found out"

FIGURE 18. The Doors, “Love Me Two Times” (cadence)

normal E: bVII bVI bIII bVII bVI V I
 progression: (V) I

"Love me two times, girl... one just for today. Love me two times, I'm goin' away"

FIGURE 19. David Bowie, “Quicksand” (cadence from first verse)

normal G: bVI bVII I VI IV I II A: bVII I
 progression: (V) (V or IV) I

"I'm frightened... drawing to... and I ain't got the power anymore. No I ain't... anymore"

opening verse of “Quicksand,” shown in Figure 19, avoids the cadential V altogether, replacing it with a bVI – $bVII$ – I progression (as Springsteen does in “Cover Me”) that itself is followed by a string of sonorities that extends the verse well beyond its twelve-bar boundary and that repositions the center to A.⁴⁴ On the opposite end of the spectrum, tunes such as “Bring It on Home” (1963) by Sonny Boy Williamson II, and “Manish Boy”⁴⁵ (1955) by Muddy Waters, present less harmonic diversity than we might expect from listening to these artists’ other recordings. Williamson spends two of his two-and-half minutes on I and IV (shifting between them a few

⁴⁴ The remainder of the song keeps A as center.

⁴⁵ “Manish Boy” is the original Chess Records spelling. It is more often listed as “Mannish Boy” (Phil Wight and Fred Rothwell, *The Complete Muddy Waters Discography* [Blues & Rhythm, 1991; revision date unknown]).

times) before finally bringing it on home—that is, before finally yielding to cadential V. Waters, on the other hand, sticks to an extended stop-time riff on I; he never moves off the tonic.

I've presented all these non-normal examples to raise the issue of *degree*: how far are we willing to travel between twelve-bar-blues form and individual invocations of it, and between norms and transformeds more generally? If we are concerned only with those invocations we can aurally experience, then there is no need to define a general limit on transformational distance—we can simply rely on the particulars of individual songs.⁴⁶ Moreover, a general rule might ignore sonic specifics that do not directly relate to the norms themselves. For example, as evidence in support of the claim that “Manish Boy” can be heard not only as a traditional monoharmonic blues (of which there are many) but also as a transformed twelve-bar (multi-harmonic) blues, I can cite the song's resemblances to Muddy Waters' earlier “(I'm Your) Hoochie Coochie Man” (1954, written by Willie Dixon), which “Manish Boy” invokes lyrically and melodically. In the later track, Muddy reminds us he's a “hoochie coochie man,” while delivering a pentatonic riff on I identical in its rhythm and similar in its pitch intervals to that heard on his previous record. The fact that the earlier song is fairly close to a normal twelve-bar blues (“fairly” in that it extends its first sections to eight measures) lends credence to the experience of “Manish Boy” as “missing” IV and V.⁴⁷ In other words, by appealing to an additional kind of transformee—a

⁴⁶ Jans Christiaens argues against this sort of pragmatism regarding the “complex dialectic of generality (general form patterns) and particularity (the concrete composition and its deviations from these patterns)” in his assessment of the sonata theory of Hepokoski and Darcy 2006 (Christiaens, “Analysis as Mediated Immediacy: Adorno, Hepokoski & Darcy, and the Dialectics of Music Analysis,” *Tijdschrift voor Muziektheorie* 13/2 [2008], 145). Christiaens prefers an approach that more strictly adheres to Adorno's *Negative Dialektik* (155).

⁴⁷ “Manish Boy” can also be heard as a sardonic answer song to Bo Diddley's “I'm a Man” (1955), a single-harmony song (riffing on I only) that likewise spells out the word “man.” Sandra Tooze observes that “Muddy borrows heavily from Diddley's lyrics, but presents them with an unabashed braggadocio not found in the original. On this track he leaves out several of Diddley's verses, although they were restored in subsequent performances” (Tooze, *Muddy Waters: The Mojo Man* [Toronto: ECW Press, 1997], 130). Bo's song itself invokes (by way of its riff) the earlier “Hoochie Coochie Man,” though, apparently, it was actually “[i]nspired by Waters' 1951 cut ‘She Moves Me’” (Tooze, *Muddy Waters*, 130).

precedent—we can bolster the bridge between this particular song’s structure and its supposed norm. This isn’t just a matter of rationalizing the harmonic content; rather, my argument is that the earlier recording can shape our *hearing* of the later one. And while the amount of any additional information required to hear transformations is specific to each norm-defying situation,⁴⁸ precedence usually is powerful stuff. The following section will delve into some of the ways in which precedents can wield aural influence in their own right.

Precedence.

Precedence differs from normality in its concreteness, which is to say that norms are abstracted from particular contexts while precedents are wedded to them.⁴⁹ Take Sheryl Crow’s

⁴⁸ For an instance of a dearth of additional support, I refer to the verses of Electric Light Orchestra’s “Mr. Blue Sky” (1977), which Allan Moore has imaginatively described as a transformed twelve-bar blues (Moore, *Rock: The Primary Text: Developing a Musicology of Rock*, 2nd edn. [Burlington, VT: Ashgate, 2001], 63, n. 38). I can, of course, *rationalize* the song’s structure in terms of the supposed norm, but experiencing it—hearing the transformational *effect*—is a matter beyond sheer intellectual will, and one that is, in this case, beyond what my ears are able to grasp.

⁴⁹ See also two articles by John Covach: “The Rutles and the Use of Specific Models in Musical Satire.” *Indiana Theory Review* 11 (1990): 119–44; and “Stylistic Competencies, Musical Humor, and ‘This Is Spinal Tap,’” in *Concert Music, Rock, and Jazz since 1945: Essays and Analytical Studies*, ed. Elizabeth West Marvin and Richard Hermann (Rochester: University of Rochester Press, 1995): 402–24. These articles use the ideas of norms and precedents (though not actually the latter term) to account for humorous effects in the music of the Rutles and Spinal Tap. Covach’s work is informed by theories of style and theories of intertextuality (the former include Leonard Ratner, *Classic Music: Expression, Form, and Style* [New York: Schirmer Books, 1980]; Leonard B. Meyer, “Innovation, Choice, and the History of Music,” *Critical Inquiry* 9/3 (1983): 517–44; Meyer, “Toward a Theory of Style,” in *The Concept of Style*, ed. Berel Lang [Ithaca: Cornell University Press, 1986], 21–71; Meyer, *Style and Music: Theory, History, and Ideology* [Philadelphia: University of Pennsylvania Press, 1989]; Robert Gjerdingen, “The Formation and Deformation of Classic/Romantic Phrase Schemata,” *Music Theory Spectrum* 8 [1986]: 25–43; and Gjerdingen, *A Classic Turn of Phrase: Music and the Psychology of Convention* [Philadelphia: University of Pennsylvania Press, 1988]; the latter include Robert Hatten, “Toward a Semiotic Model of Style in Music: Epistemological and Methodological Bases” [Ph.D. dissertation, Indiana University, 1982]; Hatten, “The Place of Intertextuality in Music Studies,” *American Journal of Semiotics* 3/4 [1985]: 69–82; and Thais E. Morgan, “Is there an Intertext in this Text?: Literary and Interdisciplinary Approaches to Intertextuality,” *American Journal of Semiotics* 3/4 [1985]: 1–4). It should be mentioned that, while my notions of normality and precedence do mimic the ideas of stylistic normality and intertextuality, mine are a bit more general, in that norms here are not necessarily stylistically bounded (although they *can be* so bounded, if we want them to be) and precedents are not necessarily intertexts (because, as will soon become evident, precedents occur just as often inside the usual borders of the text—i.e., the song—as they do outside those borders). All this said, with sufficiently loose definitions of style and (inter)text, my terms and those of style and intertextual theory become equivalent.

“All I Wanna Do” (1993). The first verse, shown in Figure 20a, recites a looped $\flat\text{VI}-\flat\text{VII}-\text{I}$ progression on E, which continues into the first chorus. At the close of the chorus, this progression is replaced by $\flat\text{VI}-\text{V}-\text{I}$ as the vocal line cadences on $\hat{3}-\hat{2}-\hat{1}$; see Figure 20b. The later harmonies are likely to be heard in terms of the earlier ones—dominant V is the preceding dominant $\flat\text{VII}$ transformed, as part of a Roman numeric substitution. To be sure, some of us might claim $\flat\text{VII}$ has been *normalized* within the context of the song, so that the V is not a transformed precedent but rather a transformed norm. There is thus an inherent flexibility in the definitions of precedence and normality, resulting from flexibility in the concepts of the particular versus the general. Whether we use the expression *precedent* or *norm* in our explanations should depend on how concrete or abstract our transformees sound; to my ear, the $\flat\text{VII}$ s in “All I Wanna Do” are particular sonorities committed to their immediate context—they are precedents. Indeed, near the end of the song, in the last chorus, the process of substitution is reversed when a $\flat\text{VI}-\flat\text{VII}-\text{I}$ progression underscores the $\hat{3}-\hat{2}-\hat{1}$ melodic cadence: the $\flat\text{VII}$ here is a transformed version of V; see Figure 20c. (In the very next iteration, V reclaims its harmonization of $\hat{2}$.) At different points in Crow’s song, then, $\flat\text{VII}$ and V both act as transformed precedent; the musical context dictates which sonority is heard in which role.

Within a single song, transformed precedents can be all but obvious. A bit more intertextual imagination is required when dealing with different recordings. Altered cover versions are among the most sonically conspicuous of this group—think back to the two versions of “Faith” in Figure 4. Such modified re-recordings need not feature different artists. In her performance of the twelve-bar blues “Hound Dog,” at the American Folk Blues Festival in 1965, “Big Mama” Thornton revises the V–I cadences played in her original 1952 studio recording by

FIGURE 20. Sheryl Crow, “All I Wanna Do”

(a) From verse

E: \flat VI \flat VII I
 "...says the man next to me outta nowhere. He's apropos of nothing..."

(b) From first chorus

lead vocal $\hat{3}$ $\hat{2}$ $\hat{1}$
 "...sun comes up un-der San-ta Mo-ni-ca Bou-le-vard.
 E: \flat VI V I

(c) From last chorus

lead vocal $\hat{3}$ $\hat{2}$ $\hat{1}$ $\hat{3}$ $\hat{2}$ $\hat{1}$
 "...sun comes up un-der San-ta Mo-ni-ca Bou-le-vard. Un-til the sun comes up un-der San-ta Mo-ni-ca Bou-le-vard"
 E: \flat VI \flat VII I \flat VI V I

inserting a softening IV in the middle (producing the same chord-additive effect witnessed in Chuck Berry’s “No Particular Place to Go,” in Figure 8).⁵⁰ Or consider the quotation of “Hey Jude” (1968) in George Harrison’s “Isn’t It a Pity (Version One)” (1970); see Figures 21a–b. In this track from *All Things Must Pass*, his first solo album after the breakup of the Beatles, Harrison invokes the famous ending of McCartney’s song by presenting his own fade-out of

⁵⁰ Elvis Presley’s 1956 version likewise adds IV. As luck would have it, we do not get this transformational effect in the anti-feminist answer song to “Hound Dog,” Rufus Thomas’s “Bear Cat” (1953): even with the reversed perspective in gender, the sexist sonic story remains intact.

FIGURE 21. Transformed Precedent

(a) George Harrison, “Isn’t It a Pity”

backing vocals (on “da”)

The musical notation for George Harrison's "Isn't It a Pity" shows backing vocals on the treble clef staff and chords on the bass clef staff. The key signature has one sharp (F#) and the time signature is 4/4. The melody consists of quarter notes: D4, E4, F#4, G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4. The chords are: GM I (G2, B2, D3), C#°7 #IV (over G) (C#3, E3, F#3, G3), Am II (over G) (A2, C3, E3), and GM I (G2, B2, D3).

(b) The Beatles, “Hey Jude”

backing vocals (on “na”)

The musical notation for The Beatles' "Hey Jude" shows backing vocals on the treble clef staff and chords on the bass clef staff. The key signature has two flats (Bb, Eb) and the time signature is 4/4. The melody consists of quarter notes: D3, E3, F3, G3, A3, Bb3, C4, Bb3, A3, G3, F3, E3, D3. The chords are: FM I (F2, A2, C3), EbM add6 bVII (Eb2, Gb2, Bb2, C3, D3, Eb3), BbM IV (Bb2, D3, F3), and FM I (F2, A2, C3). The text "Hey-ey Jude" is written under the melody in the third measure.

three minutes (out of seven minutes total, or roughly the same proportions of “Hey Jude”) in which a non-worded text is set to a slow, major-second trill on $\hat{1}$ (mimicking the Beatles’ melody set to “na na na na”). Heard against McCartney’s, Harrison’s harmonies are transformed: Roman numeric substitutes stand in for their Beatles precedents.⁵¹

The notion of precedence put forth here raises a substantive methodological issue: if we are seriously considering transformation to be a musical *effect*—a musical quality, not just a rationalization about musical structure—then our “precedence” must comprise not *historical* before-ness but rather *experiential* before-ness. This means that the structure *heard* as prior, irrespective of its first actual moment of appearance, is the structure properly tagged the

⁵¹ Harrison’s C#°7 is an example of what Walter Everett calls the “Broadway seventh,” a fully diminished seventh chord that “contains one note that moves down by minor second to the following root” (Everett, *The Foundations of Rock*, 204).

transformee. Let me demonstrate this idea with a personal example. A few years ago, I got to know the Rolling Stones' "Mona (I Need You Baby)" (1964). Upon hearing it for the first time, I was astonished by the similarity of the song's introduction to that of the Smiths' "How Soon Is Now?" (1984)—a tune with which I had already been familiar for many years. Both passages offer reverb-as-tremolo guitar riffs, hambone rhythms, and F#M tonic triads.⁵² I thus could not help but hear the difference in the ornaments on the tonic chords as a kind of transformation: the Smiths give us a lower neighbor $\flat\hat{7}$ (E) for two beats, while the Stones play an upper neighbor $\hat{4}$ (B) for one beat; see Figures 22a–b. However, my ears automatically ran the transformation backwards in time, which is to say, I heard the Stones as altering the Smiths. This kind of sequential reversal isn't an artifact of just my own personal retrograded upbringing; most musicians my age would no doubt react similarly, since the later track is generally well known and the earlier one is not. Regardless, the lesson here is that musical experiences are not always determined wholly by history; or, more precisely, the chronology of hearing and the chronology of music-making are not always equivalent. I can nowadays, of course, hear the Smiths as transforming the Stones, but this fact does not give me license to sweep my previous experience under the rug. After all, entire musical repertoires are sometimes learned in this backwards fashion, as I have repeatedly observed in teaching seventies and eighties rock music to hip-hop-reared students (who were previously familiar only with the hip-hop songs that *sample* the rock

⁵² The Stones' track itself is a reworking of Bo Diddley's "Mona" (1957). According to Johnny Marr (composer of the riff for "How Soon Is Now?"), the Smiths' guitar tremolo derives directly from Diddley: "I arrived at the studio with a demo of the whole thing, apart from the tremolo effect—though that was bound to surface on a Smiths track sooner or later, 'cos at that time I was playing Bo Diddley stuff everywhere I went" (Marr, interview in *The Guitar Magazine* [January 1997]; pagination unknown; cited on <http://foreverill.com/disc/howsoon.htm>). Indeed, the hambone pattern (eight beats, with accents on the first, fourth, sixth, and seventh beats, and in between beats two and three), while derived from African music, is strongly associated with Diddley's hits from the mid-1950s. Still, Diddley's recording of "Mona," because its guitar reverb is less pronounced and the tonal center is a whole step higher, resembles the Smiths' song less than does the Stones'.

FIGURE 22. Non-chronological precedence

(a) The Smiths, “How Soon Is Now?” (from introduction)

F#: I neighbor $\flat 7$ I

(b) The Rolling Stones, “Mona (I Need You Baby)” (from introduction)

F#: I neighbor $\hat{4}$ I

music from those decades). In saying that our listening is not determined in every respect by the sequential details of composition and performance, I am neither proposing we halt our study of compositional practice nor recommending we disregard discussions of artistic intention. I personally would like to *add* to our analytical routine a serious engagement with our own musical perceptions, no matter how ignorant of history they may be. But in any event, we are well advised to heed the experiential/recording chronological distinction; any precedence-based explanation should be sensitive to the various contexts in which music might *precede*.

Completeness.

The last kind of transformee to be discussed operates on a notion of *completeness*,⁵³ and entails effects that can be created in at least two different ways. One way is by working in tandem with a transformation of a precedent or a norm. This sort of effect was discussed above in relation to “Manish Boy,” which can be heard not just as a transformed version of “Hoochie

⁵³ Relevant here are the concepts “pitch-skipping” and “pitch-omitting” of Benjamin Morss, and “suppressed notes” of Naphtali Wagner (see Morss, “Pitch-Skipping in Rock Music” [Ph.D. dissertation, University of California at Davis, 2000]; and Wagner, “Fixing a Hole in the Scale”).

Coochie Man,” but also, more specifically as an *incomplete* version of that earlier song (in that it is “missing” IV and V). Likewise, we can aurally compare “Manish Boy” to the general model of the twelve-bar blues, in which case the IV and V are still missing—the song is still not whole. In these two hearings, the complete structure is inseparable from the precedent or the norm, and so it’s not obvious how the notion of incompleteness adds anything to our normality/precedence explanation. In truth, the incompleteness of “Manish Boy” could be understood more as speaking to the type of transformation (that is, chord subtraction) than to the type of transformee. However, incomplete structures can actually operate on their own, independent of precedence and normality, and thus are worthy of being considered a type of transformee in and of themselves. These structures represent a second way of creating an incomplete effect: by varying the rate of change in harmonic content.

Let’s turn to Bob Marley and the Wailers’ famous live recording of “No Woman, No Cry” (1975), shown in Figure 23. The repeated chordal riff in the choruses proceeds from CM (I) to GM/B (V) to Am (VI) to FM (IV). The initial stepwise, diatonic, descending bass line of the first three chords (C–B–A) is *almost* continued with the onset of the fourth chord: the motion to F is still descending and diatonic, yet it is no longer stepwise. The line therefore sounds gapped—we could reasonably expect to hear a chord over $\hat{5}$ where we instead get one over $\hat{4}$. One possible effect of the IV, then, is of incompleteness, which is amplified both by the chord’s arrival one eighth note ahead of the regular half-note schedule (a syncopation that rhythmically accentuates the chord) and by the ensuing oscillations between IV and I (which highlight the total distance traveled by the bass). The transformee in this case is not a precedent or a norm—there is no convincing prior structure, either particular or general, against which to experience

FIGURE 23. Bob Marley and the Wailers, “No Woman, No Cry” (from chorus)

(sounds an eighth earlier)

$\hat{1}$ $\hat{7}$ $\hat{6}$ ($\hat{5}$) $\hat{4}$ $\hat{5}$
 C: I V VI (V) IV I IV I V
 "No woman, no cry." "No woman, no cry"

the passage.⁵⁴ Rather, the structure being transformed is an imaginary, complete progression (on a $\hat{1}-\hat{7}-\hat{6}-\hat{5}$ bass line) suggested merely by the musical materials themselves. It is perhaps counterintuitive to call such a situation “transformational,” precisely because the transformee doesn’t come *before* the transformed. We might instead want to say that one structure is simply implicated by the passage, and that our expectation of its arrival is thwarted when the passage fails to deliver it. A transformational explanation is certainly not compulsory here, but it is perfectly applicable if our claim is that the passage invites aural comparison to a non-normal, non-preceding hypothetically complete structure. (An incomplete transformee is also what our ears employ anytime we are presented with an analysis that appeals to a partial norm with which we are personally not familiar.)

Both “Manish Boy” and “No Woman, No Cry” afford effects of incompleteness. But our glasses do not always have to be half empty. *Completion* of an already incomplete structure also occurs, although the transformees in such cases always run parallel to a precedent.⁵⁵ At the end

⁵⁴ This is not to say that there are no pre-1975 songs featuring a $\hat{1}-\hat{7}-\hat{6}-\hat{5}$ bass descent; indeed there are plenty. It is just that they are not convincing precedents, because there is no particular reason to hear Marley’s track in reference to them.

⁵⁵ It is possible that a song could complete an inherently incomplete *norm*, but I know of no such norms and thus of no such transformeds. (Marley’s succession is very close to the rock norm I–V–VI–IV–(I); however, this schema’s V arrives usually in root position, without the stepwise (gapped) bass line heard in “No Woman No Cry.” In other words, the norm itself does not typically give rise to the expectation of a $\hat{5}$ -chord after VI, and so it is not inherently incomplete.)

FIGURE 24. Weezer, “Hash Pipe”

(a) First chorus

A: $\flat\hat{6}$ $\flat\text{VI}$ $\hat{5}$ V $\hat{4}$ IV $\flat\hat{3}$ $\flat\text{III}$ $\hat{2}$ II $\hat{1}$ I

"Whoa whoa. Come on and kick me..." *I've got my ass wipe...* *I've got my hash pipe"*

(b) Later choruses

A: $\flat\hat{6}$ $\flat\text{VI}$ $\hat{5}$ V $\hat{4}$ IV $\flat\hat{3}$ $\flat\text{III}$ $\flat\hat{7}$ $\flat\text{VII}$ $\hat{1}$ I

"Whoa whoa. Come on and kick me..." *I've got my ass wipe...* *I've got my hash pipe.* *I've got my hash pipe"*

of the chorus’s phrase in “No Woman, No Cry,” for instance, a chord on $\hat{5}$ —a turnaround dominant GM (V)—fills in the gap left lingering from the initial bass-line descent. We can hear the CM–GM motion as a transformed version of the immediately preceding CM–FM pair, itself operating as a reduction of the opening CM–GM/B–Am–FM sequence. This chain of transformed precedents helps the final V to project completion of the initial descent, even though V never actually replaces IV as part of a complete restatement of the original succession. Needless to say, the effect of completing a precedent need not involve such intermediary transformational steps. For example, consider Weezer’s “Hash Pipe” (2001), shown in Figures 24a–b. In the first chorus, we are offered a harmonization of the descending Aeolian bass line $\flat\hat{6}$ – $\hat{5}$ – $\hat{4}$ – $\flat\hat{3}$ – $\hat{2}$ – $\hat{1}$ on A; in the later two choruses, the missing piece of the puzzle—a chord on $\flat\hat{7}$ —is added immediately before the resolution to tonic. This GM dominant $\flat\text{VII}$, which is the only dominant-functioning harmony in the song, is as obvious and straightforward a completion as they come.

Conclusion.

When trying to explain rock harmony's transformations—its chord substitutions, additions, and subtractions—we need to be careful; it is all too easy for the types of transformees involved—the norms, precedents, and (in)complete structures—to become conflated. Perhaps at no point is this more apparent than when we analyze songs that do not furnish us with dominant-functioning sonorities. Dominants are so central to our conception of tonality that it's terribly tempting to view dominant-less rock as inherently abnormal—indeed, it's almost *irresistible* to do so when the lyrics express ideas of distortion, defiance, or revolution. The voids conveyed in “Hash Pipe,” “No Woman, No Cry,” and “Manish Boy,” for instance, might well have been explained as transformations of the tonally normative dominant-tonic progression (transformations that are ultimately corrected in the first two songs). But I would offer a word of caution here: rock songs disregard dominants just as often as they employ them. To be sure, certain specific rock schemata do require a dominant, as does the twelve-bar blues (against which “Manish Boy” can be heard). But in general, rock, unlike so-called common-practice music, is under no pressure to provide dominant-tonic closure.⁵⁶ Accordingly, in explaining rock songs that sound as though they are “missing” a dominant, it sometimes makes more sense to invoke not an altered norm but rather some other type of transformee. This tactic is not always followed by scholars, the reason being (as I see it) that precedents and (in)complete structures do not usually carry the same cachet as norms (a bias stemming from a larger cultural fetishization of all things called “normal”). Yet we should resist labeling transformations as if they rely on an

⁵⁶ We are certainly free to expand the boundaries of our statistically engaged repertoire (that is, the body of music in which our norms and abnorms operate) to include Western art music, so that any dominant-less song would necessarily be less-than-normal. As long as we are explicit about such matters, and as long as we can still *hear* these more broadly defined transformations, I see no problem with this approach.

underlying norm, if this manner of explanation will compromise the clarity of our accounts. Such a norm-happy practice amounts to a conflation of transformees, which does disservice not only to the analysis in question but also to those other transformational descriptions that are legitimately based on normality. In other words, *all* our explanations will be that much more appropriate, that much more fitted to the music, if we keep our different types of transformees in order.

Rock harmony is full of moments that invite—or at the very least benefit from—a transformational explanation. In this article I have tried to lay out some of the basic components of such a strategy, with the understanding that much more remains to be revealed about these kinds of rock-harmonic experiences, and about the ways in which we can verbalize the experiences. At the same time, several of the concepts put forth here are not specific to rock harmony, or to rock music, or to harmonic structures, but rather are applicable to any musical repertoire that holds for us a sense that we are hearing something *changed*. It is my hope that these ideas will aid in the articulation of musical experience in the broadest possible context, as they help to clarify some of the ways in which we can reveal, or create, aural connections between distinct, and even seemingly disparate, objects of study.

APPENDIX: SUMMARY OF TYPES

Types of Harmonic Transformations

Chord substitution: no change in the number of harmonies

Chord addition: increase in the number of harmonies

Chord subtraction: decrease in the number of harmonies

Types of Chord Substitutions

Coloristic chord substitution: change in color

Roman numeric chord substitution: change in Roman numeral (and color)

Functional chord substitution: change in function (and color, and often also Roman numeral)

Hierarchical chord substitution: change in hierarchy (and function and color, and also often Roman numeral)

Types of Harmonic Transformees

Norm: a general preceding structure, abstracted from several precedents, representing a statistically predominant structure in a repertoire of real music

Precedent: a particular preceding structure

(In)complete structure: a precedent, norm, or implied structure, that is either whole or partial compared to the transformed

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ABSTRACT

Explaining one musical passage by saying it is a transformed version of another is a basic strategy of analysis. In this article, I explore this strategy specifically in regard to harmonic structures in rock music. By focusing on transformations that describe obvious musical experiences (as opposed to transformations that could be considered more rational than empirical in nature), I am able to explore the usefulness of concepts such as *chord substitution* and musical *normality* as they apply to our hearings, and as they apply to the ways in which we can make sense of our hearings via a notion of transformation.

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