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An Idiom of Melodic-Harmonic Divorce: Sub-Circle Motion in Popular Music *

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ABSTRACT: Within the stratified harmonic behavior known as melodic-harmonic divorce, this paper identifies a gesture repeated idiomatically across rock repertory. Dubbed "sub-circle" motion, this idiom is specifically a form of syntax divorce wherein a melodic layer unfolds in a way consonant with and suggestive of circle-of-fifths root motion (+P4) between two accompanying major chords; however, the harmonic layer's root instead moves up by a minor third (+m3), creating a stratified dissonance, or divorce. The paper then identifies a standard set of paradigms—specific transpositional instances of the idiom—and catalogues numerous examples of their use in rock music. One paradigm, V-♭VII^{add9}, is the subject of special analytic and historical inquiry, due to its proliferation as a deceptive cadence in the late twentieth century. This previously untheorized cadence is the most prominent instance of the sub-circle idiom.

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1.1 An Idiom of Melodic-Harmonic Divorce

[1.1.1] David Temperley (2007, 328) shows that in rock, "pitch organization is *stratified*: there are different frameworks for the melody and accompaniment." In moments of so-called melodic-harmonic divorce (MHD), "the listener senses. . . that the adherence of the melody to the harmony has temporarily been suspended" (330).(1)

[1.1.2] Drew Nobile (2015) lends further granularity to the discussion by indicating three ways that musical strata operate with harmonic independence. The first of these is hierarchy divorce, in which a melody articulates a stable harmonic orientation (typically around the tonic triad) while the accompaniment chords change at a comparatively shallow stratification: these superficial chords are "analogous to melodic non-chord tones and are either prepared by or resolve into structural harmonies" (193). The second, loop divorce, arises when, in a song marked by a recurring accompanimental chord loop, a melody maps its own apparent progression in order to attain a more dramatic shape than the nominal harmony provides. The third is syntax divorce, in which both melody and harmony converge upon "a cadence or other structural motion but in incompatible ways" (189).

[1.1.3] I seek to deepen our understanding of these phenomena by describing and itemizing a common but previously unrecognized idiom of MHD, and specifically of syntax divorce. Within rock practice primarily of

the late twentieth century, I identify a family of progressions wherein the melodic layer is consonant with (and suggests) circle-of-fifths root motion (+P4) from one accompanying major triad to the next, but the harmonic layer's root moves up instead by a minor third (+m3). Because the new chord has a local subtonic relationship to the expected root, I refer to this behavior with the portmanteau *sub-circle motion*.(2) This necessarily creates a stratification or divorce between the melodic layer and the harmonic and bass layers. I theorize sub-circle motion in both its general archetype and its individual paradigms.

[1.1.4] Beyond detailing MHD phenomena, this article considers the wider narrative of rock. I give special attention to the most significant paradigm of sub-circle motion, a deceptive cadence (DC) resolving from V to ♭VII^{add9}. Section 3 points to one way—namely, the historical rendering of ♭VII as structural goal—that rock stylistically affirmed subtonic harmony as a typifying feature, and thus over time traceably differentiated itself from other genres.

1.2 Describing Sub-Circle Motion

[1.2.1] **Example 1** offers an archetype of sub-circle motion. Its top voice indicates the melodic stratum, and its bottom voice indicates the root motion of the harmonic stratum, from which inner voices derive.

[1.2.2] As a grammatical behavior in popular music harmony, sub-circle motion contains the following *required features*:

- The motion of one melody note to the next (allowing for intervening embellishment) is consonant with circle-of-fifths root motion.
- The harmonic layer's first chord is built on a major triad.
- Its second chord, also major, arrives not by +P4 root motion but by +m3, thus creating a stratified dissonance between the new chord root and the melodic resolution.

[1.2.3] Additional factors strengthen the unique function of this idiom. Given a pair of successive simultaneities that fulfills all required features, the more of the following *optional features* the pair exhibits, the more audible and unambiguous its sub-circle motion.

- Both chords in the harmonic layer are in root position.
- The melody moves, by step, to a major ninth above the new chord root (that is, it moves to the root of the expected circle-of-fifths chord).
- In unembellished rhythmic unison between melodic and harmonic strata, the second simultaneity arrives on a hypermetric accent, with a cadence being the strongest emphasis.

[1.2.4] Before this article explores particular uses of sub-circle motion, a few qualifying statements are needed. Musical examples are chiefly selected for their clarity of sub-circle motion. But, as with MHD itself and its subcategories, ambiguous cases and weak instances exist—and I shall occasionally cite them when they illustrate the idiom in nascent forms, as with Example 7. Furthermore, it is important to acknowledge that our expectations of rock and pop harmony are by no means bound to circle-of-fifths motion. Nonetheless, de Clercq and Temperley (2011, 63) reveal +P4 root motion as the single most common succession in their "RS 5 x 20" corpus of historical popular music. Its 2,266 occurrences in their 1955–1997 repertory far outweigh the 410 occurrences of +m3. From this I assert, borrowing a phrase from de Clercq (2019, 278), that the harmonic layer (with attached bass) is usually the "renegade element" in a sub-circle motion's stratification, breaking away from the melody's lead.

[1.2.5] Understanding the importance of melody among these strata refines our approach to labeling the phenomenon. To classify a sub-circle melodic arrival as a mere non-harmonic tone is to misapprehend the comparative structural depths of melody and harmony—to get the identity of the renegade element wrong. Nobile (2015, 198) writes of situations where structural formulas for melodic and harmonic progression are "conceptually prior" to the simultaneities they produce. Sub-circle motion is such a situation. But when he asserts that a syntax divorce's resulting "'chord' is simply the by-product of two coincident but separately unfolding processes," he continues, "It ultimately does not matter whether we call" the melodic note a non-chord tone or specify it with "add" notation (198). I think in this case it does matter. As examples will demonstrate, the stylized sound of sub-circle motion is so widespread and repeated in rock that listeners can learn to hear it with a kind of oneness.

[1.2.6] For these reasons of strata relations and idiomatic pervasiveness, I opt to use "add" notation in labeling the second simultaneity of a sub-circle gesture. This acknowledges that the stratification (e.g., of the ninth in

the melody) does not rely upon tertian extensions of the underlying chord (e.g., the seventh), and is in fact clearest in their absence. It also situates the move expressly in a popular music context, where "add" is standard label. The notation admittedly falls short of fully indicating the melody's situational primacy; where I write V–♭VII^{add9}, the reality is more like V–$\hat{1}^{add♭VII}$. Alack, no popular notational system yet accounts for the potentially changing hierarchy of strata. Christopher Doll (2013) and de Clercq (2019) both discuss the overwhelming practical and conceptual difficulties of devising harmonic notation that elegantly captures the vertical and contrapuntal axes of music's literal and functional layers while simultaneously serving the player's hand, listener's ear, and composer's mind.

[1.2.7] Sub-circle motion is necessarily a type of chromatic mediant progression, yet the harmonic function of its +m3 arrival nonetheless can situationally resemble that of the expected +P4 root motion.(3) This is an instance of "functional multivalency," a quality whose presence in popular music Christopher Doll (2017, 64) convincingly theorizes (wherein for example, "V can function in more than one way: it is not necessarily a dominant, and not necessarily *just* a dominant"). Nobile (2016) reinforces Doll's findings.

1.3 Standard Paradigms of Sub-Circle Motion

[1.3.1] Having described the general archetype and criteria for sub-circle motion, I now set the stage for a case-by-case consideration of the idiom's standard paradigms. In rock music, what modal transpositions of successive +m3 major chords are grammatical? The most abundant and most convincing sub-circle paradigms derive from frames where the first simultaneity of the pair *and/or* its expected +P4 resolution are diatonically major within a song's tonality, as represented by its nominal key signature. An additional factor delimiting standard uses of sub-circle motion is that in rock, the tonic and dominant as chord roots are chromatically inflexible, and so minor-mode gestures of VI–♭I ^{add9} and III–♭V ^{add9} are both extremely rare and unlikely to retain a sense of belonging in their given tonal frames.

[1.3.2] Transpositional paradigms of sub-circle motion contravening these tendencies are possible but nonstandard in popular music, growing less common and less idiomatic as they rely more on chromatic alterations. For instance, in major-mode gestures of VI–I^{add9} and III–V ^{add9}, neither of their first simultaneities nor their +P4 cousins are diatonically major, which makes them very difficult for a melodic stratum to suggest. Minor-mode gestures of I–♭III^{add9} and V–♭VII^{add9} are somewhat more common, resembling in a blurry way their parallel major reframings, but they fall short of the optimal criteria outlined above.(4) (In the space below, I will examine one instance of the former, but the latter is especially less effective than its occurrences in major modes.)

[1.3.3] Recall that in the sub-circle archetype of Example 1, a melody resolves from B to C atop root-position major chords moving from G to B♭. **Example 2** uses possible tonal framings of Example 1 (charted in relative major and minor pairs) to illustrate paradigms. Duly notated in parentheses are the +P4 harmonies that are consonant with (and suggested by) sub-circle melodic resolution. Framings that fulfill the criteria of [1.3.1] are indicated with YES in columns 5 and 10. Theirs are the standard paradigms of sub-circle motion, which I will individually describe.(5)

2.1 II–IV^{add9}

[2.1.1] Although not the most common sub-circle paradigm, II–IV^{add9} appears across popular music. Exemplary is the chorus of Foo Fighters' 2007 single "Long Road to Ruin" (#1, Billboard Modern Rock). As shown in **Example 3**, the C-major melody on the lyric "no tomorrow, no dead end in sight" appropriately suggests an open cadence, complete with its secondary leading tone of F♯ resolving to G. All required and optional features of sub-circle motion (per [1.2.2–1.2.3]) are present. At a song-wide level, the II–IV^{add9} sub-circle gesture functionally replaces traditional half cadences. Nowhere in the recording does a root-position V appear. Nowhere does the D-major II chord, which always supports that striking melodic F♯, proceed to anything but IV.

[2.1.2] Similarly voicing a II–IV^{add9} gesture is **Example 4**, Pink Floyd's 1987 single "One Slip" (#5, Billboard Mainstream Rock Tracks). In the key of E♭ major, the A♭ IV chord substitutes for the expected B♭ V chord, coming on the heels of an intriguing F-major II. This concluding cadence of verse 1 functions similarly to Example 3 in that it behaves much like a half cadence, careening thereafter into the E♭ tonic of verse 2.(6)

[2.1.3] These examples underscore the reliance of II–IV^{add9} on cadential coordination.(7) Not all paradigms, as I will show, are so entwined with hypermetric accent, but it is instructive to compare Examples 3 and 4 with other instances of II–IV motion in popular music. By far, the gesture's most common appearance is within a looping I–II–IV–I progression (per Donovan's "Atlantis"), in which the third chord is unlikely to offer even a local melodic arrival, much less a stratified one. In these cases, rhythm and phrasing offer little support to the upward tendency of a melodic ♯$\hat{4}$ atop II.(8)

[2.1.4] More to the point, the heart (and perhaps the historical origin) of I–II–IV–I is the chromatic descent $\hat{5}$–♯$\hat{4}$–♮$\hat{4}$–$\hat{3}$, familiar from blues and barbershop harmony, and described by Walter Everett (2009, 258) as "deflated sentiment." Early instances of this descent harmonize $\hat{4}$ as the seventh of V, but the move to replace V with IV was likely less an attempt to deceive one's expectation of upward resolution than to smooth downward motion. ("Smoothing" is indeed how theorist Timothy Chenette, in a 2014 blog post, interprets such a moment in John Mayer's 2009 song "Who Says.") Everett elsewhere (2004, [18]) notes how in such cases, IV "softens" a harmonic return to I.

[2.1.5] Naphtali Wagner (2003, 354) gives theoretical context to similar behavior in the Beatles' music. Much of pop's harmonic innovation began with the characteristic "blue notes" of blues practice. Over time, musicians inventively reharmonized such blue notes, making chord tones out of what previously had been local dissonances: "these notes may achieve their own independent harmonization, thereby being domesticated and turning into 'environment-friendly' consonant notes," writes Wagner. He continues, "This domesticating, consonantizing process led the Beatles to invent original chord combinations that seem more acts of harmonic daring than attempts to sterilize basic rhythm & blues." Vitally, the sub-circle uses of II–IV^{add9} reflect an inversion of what Wagner describes. Where the Beatles sang blue notes and contextualized them as newly consonant, the melodies of Examples 3 and 4 follow traditional, un-blue formulas, but are contextualized—stratified—with newly dissonant chords.

2.2 IV–♭VI^{add9}

[2.2.1] The relative-minor reframing of II–IV^{add9} is IV–♭VI ^{add9}, an especially modern-sounding sub-circle paradigm. It can seem comparatively sleek because in ♭VI ^{add9}, root and melody alike avoid the well-worn trappings of $\hat{1}$, $\hat{4}$, and $\hat{5}$, lighting up instead with an Aeolian sheen. The +P4 melodic suggestion of the first simultaneity (IV) is ♭VII, which traditionally is not a cadential arrival point (especially in major modes). Thus, the second simultaneity (♭VI ^{add9}) sounds less like a replacement for another chord, and more like harmonic otherness. Accordingly, IV–♭VI ^{add9} is also less reliant on cadential status than II–IV^{add9}. Historically iconic and musically demonstrative is **Example 5**, the chorus of Nirvana's 1991 "On a Plain." If we hear ♭VI^{add9} as hypermetrically accented in this excerpt, it is closer to a "cadence of limited scope" (per Caplin 2013, 155) than the marked arrival in Example 3. The melodic importance of that middle-C "ooh" is reinforced by the note's additional role as the title hook's landing pad.(9)

[2.2.2] Because IV–♭VI ^{add9} discards much of the barbershop baggage carried by II–IV, it can even manage to sound fully sub-circular in the middle of a phrase. Here in **Example 6**, it appears amid the guitar riff that opens the Chameleons' 1986 goth club classic "Soul in Isolation." Note the long-range voice leading across the first three measures from F to G♮ to A♭, which is the ninth of the G♭ VI chord.

[2.2.3] Both Examples 5 and 6 at times buck against their ostensible mode. But I still hear the former as broadly major and the latter as broadly minor—even as both employ a similar IV–♭VI ^{add9} sub-circle move. To delineate the subtle distinction between these two examples, recall (per [1.3.1]) that a paradigm is most convincing when its first triad *and/or* its melodically suggested +P4 resolution is major within the diatonic frame; such is the case for both excerpts, but in Nirvana's major frame, IV is the diatonic triad, whereas for the Chameleons' minor frame, its unsounded +P4 of ♭VII is the diatonic element. The affective difference between the two lies in whether ♭VI ^{add9} sounds like a dire question mark within the song structure (as in Example 5) or a terminal punctuation flatly quashing a bid for hope (as in Example 6).

2.3 I–♭III^{add9}

[2.3.1] The next sub-circle paradigm I consider is I–♭III^{add9}. Like IV–♭VI ^{add9}, this paradigm is an ambiguous, modally subversive gesture, and does not substitute for a traditional cadence. Unsurprisingly then, musicians employ it in a variety of hypermetric placements, in which it often sounds more like setting up a strange plot than tracing a preordained outcome. Furthermore, like IV–♭VI ^{add9}, its idiomatic status in rock is relatively recent. Simple motion from I to ♭III is, of course, a staple of blues-derived popular music, used to

escalating effect in songs such as Sam and Dave's 1966 "Hold On I'm Coming" and Aretha Franklin's 1968 "Think." But it usually takes special circumstances for the functional I–♭III^{add9} sub-circle paradigm to appear—especially in historically earlier instances when its idiomatic status was not yet clear.

[2.3.2] One such early circumstance arises in Example 7, which transcribes the falsetto backing vocals of Jimi Hendrix's 1967 "Wait Until Tomorrow." In an act of remarkable text painting, Hendrix uses a version of the paradigm in the song's E♭ chorus.(10) He speaks a lyric from the perspective of a would-be lover whose tryst is endlessly delayed, and backup singers voice the melody, rocking from $\hat{5}$ down to $\hat{4}$. In blues-derived music, the strongly expected progression here would be I–IV, but Hendrix instead uses ♭III as his second ingredient, which creates a stratified totality of ♭III^{add9}. Here sub-circle motion is more ambiguous than later examples will show. Bassist Noel Redding complicates the stratification by playing a quiet pedal E♭ tonic riff beneath Hendrix's confident G♭ chord. Although the clearest stratification of this simultaneity is between Hendrix's ♭III and the sung $\hat{4}$, it is appropriate in this case to apply the rare term from de Clercq (2019, 272), "melodic-harmonic-bass divorce." The effect is appropriately one of repeated surprise, deferral, and flummoxed frustration.

[2.3.3] Skipping ahead several decades we find a somewhat clearer case of the I–♭III^{add9} paradigm in **Example 8**, Peter Murphy's 1989 single "Cuts You Up" (#1, Billboard Modern Rock). Erupting from an E minor verse, its postchorus in G commences with the gesture (though the third of its new tonic chord is scarcely audible). Much like in Example 7, the vocal melody steps down from $\hat{5}$ to $\hat{4}$ while the harmonic layer raises the stakes with a stratifying move to ♭III. Its subsequent shift to IV reunifies the strata, but notably, the whole song ends with an unresolved repetition of this I–♭III^{add9} paradigm, a cadence to nowhere.

[2.3.4] By 2000, the I–♭III^{add9} sub-circle paradigm appears commonly, especially in alternative and modern rock genres. In **Example 9**, Oasis repeats the move in the chorus of "Go Let It Out" (#1, UK singles).(11) Approached from A major, here the moment of stratification functionally resembles a half cadence to my ears, but this owes more to its hypermetric placement than to its pitch content.

[2.3.5] Released three years later is **Example 10**, Linkin Park's hit "Somewhere I Belong" (#1, Billboard Mainstream Rock). Its signature guitar riff adheres strictly to the archetypical (major) $\hat{3}$–$\hat{4}$ voice leading atop (minor-key) motion of I–III, followed by VI^7–IV. Again, the effect is a stratified III^{add9} sound in which the melody searches for a harmony where, per the lyric, it "belongs."(12)

[2.3.6] The sub-circle arrival in this example is less hypermetrically accented than previous excerpts. But the passage brandishes all other features of sub-circle motion, and its I–III^{add9} harmony is the clearest of all my examples. Cross relations and melodic ascending motion in this excerpt (and to a lesser extent in Example 6) constitute important ways to raise musical stakes and delimit the territory that phrases may traverse. Melody and harmony each embark, their stratified dissonance marking the incompatibility of their respective roadmaps. Thus the motion is still syntactic, if not cadential. Recall that Nobile (2015, 189) writes that in syntax divorce, "melody and harmony participate in a cadence or other structural motion. . ." I take seriously and meaningfully his distinction between cadence versus other structural motion—the latter of which allows for the kind of intensifying consequential flow comprising MHD here.(13)

2.4 VII–♭II^{add9}

[2.4.1] The next standard paradigm in the order outlined by the chart in Example 2 is V–♭VII^{add9}, but because it will compel a longer excursion, allow me first to review its relative-minor reframing, VII–♭II^{add9}. It is neither so functionally multivalent nor as metrically transposable as the previous several paradigms have been. This owes in part to the melodic arrival's suggestion of III—the relative major tonic. Accordingly, each example below takes part in what de Clercq (2021) calls a relative-minor system, and its moment of stratification on ♭II^{add9} marks an unmistakable cadence.(14) But importantly, in every case it subsequently resolves to (and ultimately reaffirms) the minor tonic.

[2.4.2] **Example 11** is from a-ha's 1987 James Bond theme song "The Living Daylights" (#5, UK singles). Here the second chorus proceeds to the bridge. Excepting the eighth-note retardation in the melodic resolution, this is a textbook VII–♭II^{add9} sub-circle gesture.

[2.4.3] **Example 12** shows the prechorus approaching the chorus of "Radio Orchid," a 1993 cut by Fury in the Slaughterhouse (#49, German singles). Its verse and chorus are in A minor, though the comparatively unstable prechorus hints momentarily at D minor and C major. The prechorus melody reaches a cadence by leading

down from D to C while the bass moves from B to B♭ in a VII^{6}–♭II^{add9} gesture (and so doing, declines the optional sub-circle features of exclusively root-position chords). After a brief pause, the music tumbles down into a standard A-minor chorus.

[2.4.4] In **Example 13**, a similar action concludes the dolorous chorus of Snow Patrol's "Set the Fire to the Third Bar (ft. Martha Wainwright)" from 2006 (#54, Billboard Hot 100). In B minor, the harmony moves at this cadence from VII to ♭II (A to C). The melody meanwhile resolves not to a pitch in ♭II nor to its ninth. Instead, the lead voice part lingers on A and F♯, members of the expected III chord. This melodic difference from other music I reference is instructive of how our understanding of sub-circle motion may grow in the future.

[2.4.5] The locus of this paradigm implies much of its impact: being the minor-mode relative transposition of V–♭VII^{add9}, it exhibits much of the latter's surprise and deferral, but with an overwhelmingly wistful, even maudlin sentiment. Of course, to understand this claim, one must discuss V–♭VII^{add9}, to which I now turn.

2.5 V–♭VII^{add9}

[2.5.1] Within sub-circle motion, V–♭VII^{add9} is the paradigm whose use in rock harmony is most widespread and consistent. It is safe to call it the idiom's most emblematic form.

[2.5.2] Consider **Example 14**, from the first chorus of Starship's hit of 1987, "Nothing's Gonna Stop Us Now" (#1, Billboard Hot 100). The song uncorks a familiar I–vi–IV–V 1950s progression in F♯ major. On the title hook, the melody approaches a cadence from an E♯ leading tone, supported by V, but when the singer voices the closing tonic pitch, the harmony surprises us with E major instead of F♯: the total result is ♭VII with melody on the tonic, a major ninth above. This is an unambiguous case of sub-circle motion, fulfilling all required and optional features outlined in [1.2.2–1.2.3].

[2.5.3] In the song, later occurrences of the chorus resolve the final dominant chord to the tonic—in each case with an elision: first to the bridge, and thereafter to chorus repetitions that eventually fade out. This structure reinforces the role of ♭VII, which substitutes for the tonic chord. Even if the move is otherwise far from a textbook V–vi DC, its effect is decidedly deceptive—especially given that it doesn't circle around for a "one more time" summary cadence, per Schmalfeldt (1992). We are treated to a quintessentially rock chord root, a cross relation between that subtonic root (E) and the melodic leading tone from the preceding V chord (E♯), an aspirational major chord (not a potentially dour vi), and an appealingly jazzy frisson on the ninth.(15)

[2.5.4] The deceptive ♭VII^{add9} can appear in various positions within a song's structure, but because of its powerful cadential behavior, it often marks a border between sections. **Example 15** is Midnight Oil's "Warakurna," from 1987's *Diesel and Dust* LP (#1, Australian albums). The cadence here serves as a transition from a tense prechorus with fast harmonic rhythm into a comparatively spacious chorus (instead a move out of the chorus, as seen in Example 14). The subsequent chorus begins on I, highlighting the ability of ♭VII^{add9} both to substitute for the tonic and lead into it. The chord wields this capacity more adroitly than the standard DC of vi.(16)

[2.5.5] In **Example 16**, U2 also employs the chord to conclude a verse in 1987's "Where the Streets Have No Name" (#4, UK singles). Again coming out of dominant harmony, ♭VII^{add9} is similar to Examples 14 and 15 in its effect. The comparative tension in the music here owes to the doubling of î in the guitar, the crescendo of the drums, and—retroactively—to the downbeat tonic arrival of the chorus that follows.(17)

3.1 The Deceptive ♭VII^{add9}

[3.1.1] A new kind of DC is at work in these examples, and this warrants clarification. Cadence is a less precise idea in popular music than in common-practice musical forms. Indeed Ken Stephenson (2002, 56) notes that rock style enforces no "necessity for all aspects of a piece to lead to simultaneous resolution." Songs without melody or those based on chord loops and static grooves are especially likely to avoid such coordinated arrival. Stephenson's language here ("all aspects") is mindful of the stratification that allows for the divorce of melody and harmony—and for that matter, of bass, rhythm, lyrical rhyme and meter, and more. (The coda to David Bowie's "Ashes to Ashes" offers a quick case study in such bewildering stratification.) Thus, in popular styles we should differentiate not merely between cadences' harmonic paradigms, but also between single-stratum versus coordinated action. For my purposes (and per Nobile's definition of syntax divorce), some metric alignment between melodic and harmonic arrival is a minimum requirement for a cadence.

[3.1.2] The DC creates surprise by presenting an alternative to an expected tonic chord. Writing of classical style, Caplin (1998, 101) stipulates that in a deceptive cadence, the expected "final tonic is replaced by a related harmony, one usually built over the sixth scale-degree in the bass." In their undergraduate textbook, Stefan Kostka and Dorothy Payne (1995, 157) describe the DC in looser and more rock-compatible terms: the cadence's first chord "contains [the] leading tone" and its second chord is simply "not tonic."

[3.1.3] Harmonically, popular music allows for cadential motion (at least hypothetically) between any two chords. But melodically, cadence formulas are more limited: "If any standard patterns of melodic cadence exist," Stephenson writes (2002, 64), they ultimately derive from "certain frequent harmonic combinations ending on the tonic chord." (He specifies approaches from IV and extensions of V.) In practice this most often means stepping or holding to $\hat{1}$, $\hat{3}$, or $\hat{5}$. To reconcile these standard melodic tendencies with rock's "common avoidance of [harmonic] cadential closure" is therefore to glimpse why "not tonic" resolutions are stylistically important. (69)

[3.1.4] The ♭VII chord marks a harmony as "rock" more decisively than any other triadic presence. A quick comparison of chord succession in corpus studies of rock by Trevor de Clercq and David Temperley (2011, 60) and of Bach by Dmitri Tymoczko (2003) is sufficient to see that prominent among differences between their tonal worlds is rock's stylistic use of ♭VII. It is the fourth most common chord in de Clercq and Temperley's corpus, occupying more than 8% of its harmonies, compared with Bach's near-total avoidance of it: Tymoczko's study doesn't detect the chord. Allan F. Moore reaches similar conclusions in his 1995 comparison, demonstrating that the subtonic, both as a melodic and harmonic presence, is "normative in rock" (199), while in contrast, "the leading-note/tonic relationship [is] axiomatic to the definition of common-practice tonality" (187).

[3.1.5] For all that Moore discusses ♭VII as a rock harmony, he does not mention it as a cadential goal (whether stratified or not). Nicole Biamonte (2010) also investigates a number of subtonic chord usages in rock music, though again, not as cadence points. In the corpus that de Clercq and Temperley analyze, ♭VII functions with remarkable consistency as a pivot chord on either side of IV or I, acting much more as a harmonic neighbor than an arrival. The deceptive $\flat\text{VII}^{\text{add9}}$ as a point of cadence is surprisingly undertheorized.

[3.1.6] The deceptive $\flat\text{VII}^{\text{add9}}$ is important to consider both in its role as a cadence in popular music and as a prominent instance of sub-circle motion. These considerations are not easily separable. If +m3 root motion takes the place of expected +P4 root motion, then V–$\flat\text{VII}^{\text{add9}}$ substitutes for V–I. Amid the historically situated practice in which this cadence emerges, tonic-dominant relations wield considerable power to build and release tension.(18) Accordingly, noncadential occurrences of V–I in twentieth-century rock music are rare: Moore's 1992 transcription of approximately 700 songs' harmonies (82-105) yields no more than 20 cases of mid-phrase V–I motion. Of course we cannot extricate harmony from its causal role in phrase structure, but here, both associative and intrinsic elements heighten the cadential suggestion in V–$\flat\text{VII}^{\text{add9}}$. When we *do* hear V–$\flat\text{VII}^{\text{add9}}$ at a moment of hypermetric accent (as is most often the case), those logics compelling the stratification of its MHD—Nobile's "coincident but separately unfolding processes" (2015, 198), and Stephenson's independent "cadence formulas" (2002, 64)—are the very same forces that determine the presence and placement of such an accent. In other words, in determining whether a given V–$\flat\text{VII}^{\text{add9}}$ succession is a DC and/or sub-circle progression, if it fails to register as one, it will likely fail to register as the other. Thus, to be clear: in practice, the deceptive $\flat\text{VII}^{\text{add9}}$ is a cadence grammatical to popular music. Within the conceptual hierarchy of this paper, it is a near-total overlapping subtype of the V–$\flat\text{VII}^{\text{add9}}$ paradigm of sub-circle motion, itself an idiom of syntax divorce, itself a type of MHD.(19)

[3.1.7] Theorists wishing to explore individual cases of the deceptive $\flat\text{VII}^{\text{add9}}$ are spoiled for choice. Cat Stevens, in an early instance of the harmony, employs the cadence elegantly before the refrain line in 1970's "Into White." Asia's top-ten hit of 1983 "Don't Cry" finishes its first chorus on the chord, which (like Example 14) it "corrects" to an authentic cadence in subsequent statements, affirming the $\flat\text{VII}^{\text{add9}}$ chord's function as a deceptive tonic substitute. Chicago's US #3 hit of the same year, "You're the Inspiration," wraps its first chorus with the gesture before modulating up a fourth. A veritable feast of DCs, Dave Stewart and Barbara Gaskin's cover of "It's My Party" departs from the 1963 renditions by the Chiffons and Leslie Gore: this 1981 UK #1 hit uses the deceptive $\flat\text{VII}^{\text{add9}}$ at the end of its first two choruses, then concludes the third with a "proper" DC to vi (synonymizing both chords as deceptive), before perversely ending the whole song with another $\flat\text{VII}^{\text{add9}}$. In all these examples, $\flat\text{VII}^{\text{add9}}$ stands in idiomatically for an expected authentic resolution across strata.

[3.1.8] Stephenson (2002, 70) notes that in rock, "totally coordinated resolution" is strikingly rare, and often "leaves the listener no room to doubt the sincerity" of its musical moment. We expect authentic cadences more in heartfelt power ballads than dance tracks—regardless of whether those expectations are fulfilled or subverted. It is safe to say that as a pop cadence with power to substitute for V–I motion, V–♭VII^{add9} achieves its most deceptive (and thus affective) results amid the expectation of such multi-strata coordination. No wonder so many of the examples here are from love songs. The deceptive ♭VII^{add9} is an innovation seemingly exclusive to popular music, but being the stuff of heightened emotion, it may also align with hitmakers' most tradition-steeped practices of goal-oriented harmony and deep sentimentality. Rather than seeing harmonic innovation within otherwise old-fashioned songwriting as ironic, we might hypothesize it as a timid but important step in the individuation of rock harmony from prior traditions.

3.2 Historical Readings of the Deceptive ♭VII^{add9}

[3.2.1] At a glance, the examples I offer suggest (even above and beyond my undeniable selection bias) that this cadence was most popular during the 1980s. In **Example 17**, de Clercq and Temperley (2011, 64) trace the ♭VII chord across the timeline of their RS 5 x 20 corpus, decade-by-decade, noting its total share of rock harmony.(20)

[3.2.2] This timeline is consonant with a narrative in which the apparently sudden emergence of ♭VII in the 1960s gives way to greater explorations of its functions during the 1970s—functions beyond pivoting and neighboring I and IV. In this narrative, the peak popularity of the sound of ♭VII in the 1980s both fuels and is fueled by its new legitimacy as a cadential arrival. Jay Summach's study (2012, 238) supports this reading with a chart reproduced in **Example 18**: in his 700-song rock corpus, both verses and choruses grow much more likely to conclude on non-tonic chords—from 16% in 1955 to 71% in 1989 (verses) and from 0% in 1955 to 45% in 1989 (choruses).

[3.2.3] These findings duly support the idea, which Stephenson (2002) hints at, that as rock has become a style over time separate from its ancestors, it has grown less concerned with cadences at all. (Looking ahead, the decline of the subtonic's share in rock harmony during the 1990s accords with a decline in popularity of the cadence-reliant ballads discussed in [3.1.7–3.1.8]. After all, 1990s pop boomed with groove- and loop-based practices that avoided chromaticism and are thus incompatible with sub-circle motion. And ascendant in them we can hear popular music's modern era, comparatively detached from the legacies of both the Great American Songbook and classic blues.)

[3.2.4] I propose that popular music's adoption of ♭VII, particularly in its cadential capacity, overlapped with a search for sufficiently fresh (e.g., deceptive) harmonies.(21) Consider that the expanded use of the submediant chord in popular music during the 1960s may have dulled its propensity to surprise. Indeed, the chord is apparently more common in popular song than classical music. By the numbers, its function may be less deceptive. To wit, de Clercq and Temperley indicate that the submediant accounts for 11.2% of harmonies in their corpus (7.2% are vi in major keys; 4% are VI in minor), slightly more than the 9% that Tymoczko identifies in the Bach chorales.

[3.2.5] More convincingly, as we dive deeper into the timeline of popular music, we see the submediant's use correlating closely with that of the subtonic. **Example 19** shows the percentage shares of vi+♭VI in the corpus of de Clercq and Temperley (2011, 64), and **Example 20** plots both vi+♭VI and ♭VII together.

[3.2.6] From the 1950s through the 1980s, as Example 20 shows, ♭VII *supplements rather than supplants* submediants. Part of this supplementing, I assert, involved taking over aesthetic duties of surprise that the submediant could not fully retain in its new and ongoing post-1950s ubiquity. Tantalizingly, this raises an historical question of whether the deceptive ♭VII was the germinating seed from which other sub-circle paradigms sprouted from the 1980s onward, and began to bear fruit.

4.1 Future Avenues and Conclusion

[4.1.1] In 2000, ethnomusicologist Chris McDonald (356) asked, "Are there any techniques of rock harmony that, perhaps as a result of cross-pollination or synthesis, have emerged as distinctive or unique?" By now there is no doubt that the answer is *yes*. Discussions of popular music's MHD have productively introduced categories of stratification, such as Nobile's three aforementioned types and de Clercq's bass-harmonic divorce. This paper's contribution is in recognizing *idioms* of stratification. Many potentially exist; for now I call attention to sub-circle motion, an idiom of syntax divorce that has recurred with consistency, flexibility,

and durability across decades of repertory. Within sub-circle motion, the deceptive ♭VII^{add9} is unique in its clarity, its widespread use, and its potential impact on other areas of music theory (e.g., cadence studies).

[4.1.2] This article is foremost concerned with laying a groundwork, and our understanding of sub-circle motion may yet be refined or expanded. Paradigms exist beyond the standard set I explore, such as those marked NO in Example 2, or chromatic transpositions. Some of these rare gestures appear in rock repertories, but most await intrepid songwriters of the future.(22) I have also not explored the degree to which the second chord's status as a substitute for a circle-of-fifths progression is affected by particular melodic outlines, or by precedents either in a given song or a wider corpus (e.g., that of an artist or a genre). Toward expansion, effects similar to sub-circle motion are possible in other chord progressions—especially bearing in mind the aforementioned concept of functional multivalency.(23)

[4.1.3] Worthy too of immediate attention is the idiom's appearance in broader repertories. Nearly all examples above are from rock music made between 1980 and 2010, and while they serve to situate this paper's argument tightly within history and genre, the demographics of musicians represented testify troublingly to rock's overwhelmingly white and male frame. Venturing into other popular styles, one finds sub-circle motion in the works of Earth, Wind, & Fire (V–♭VII ^{add9} in the verses of "September"), Lil Nas X (I–♭III^{add9} in the backing loop of "Old Town Road," sampled from Nine Inch Nails), and Tori Amos (IV–♭VI ^{add9} in the verses of "Baker, Baker"). With an ear toward race and gender, we can ask whose music makes what uses of this idiom, and why?

[4.1.4] Finally, the historical hypotheses regarding the deceptive ♭VII ^{add9} warrant deeper probing. How might we trace the process by which individual paradigms and the wider use of sub-circle motion became idiomatic? Akin to Wagner's unearthing of operative origins behind the Beatles' harmonic inventions, might a genealogy of MHD idioms reveal developmental practices that led to recognizable style? Deeper investigation of these matters can be developed upon this modest article's framework.

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Footnotes

* I am grateful to Trevor de Clercq, Jeffrey Perry, Drew Nobile, and an anonymous reviewer for their comments and suggestions on this research.
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1. In a 2019 article, Trevor de Clercq amends the melodic-harmonic dualism to include bass as a third stratum, able to move independently of the harmonic layer. And one can suppose that even more than three strata are theoretically possible. With just one exception (Example 7), the song excerpts I discuss in this article make no meaningful use of bass-harmonic divorce, given that their bass and harmonic layers are "married."
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2. The neo-Riemannian expression of this move is *PR* (parallel, e.g., C to C minor, then relative, e.g., C minor to E♭). Guy Capuzzo (2004, 181) has demonstrated the value of neo-Riemannian approaches in popular music analysis. But although he recommends the techniques in progressions that "contain modal mixture and root motion by third," my examples below—despite containing those features—do *not* adhere to his further stipulations. The music and ideas I take up here specifically do not "lack structural dominant harmonies, and. . . leading tones that might carry dominant function," nor do they derive, for instance, from the "interior of a sequence." Furthermore, the phenomenon I describe is not strictly concerned with parsimonious voice leading. Finally, it necessarily involves non-triadic simultaneities, and as Frank Lehman (2014, 29) indicates, where music takes up a "richer vocabulary of sonorities than simple major and minor chords. . . NROs [neo-Riemannian operators] offer less help." As such, I will be using Roman numerals in this article. For more discussion of the analytic notational challenges that MHD presents, see Christopher Doll (2013), Trevor de Clercq (2019), and section 4 of this paper. Other useful neo-Riemannian approaches to chromatic mediant progressions in popular music appear in the work of David Forrest (2017).
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3. As stated in the previous note, this is neo-Riemannian operation *PR*.
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4. These paradigms especially overlap with rock's use of modal subversion as described by McDonald (2000).
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5. In this article, capitalized Roman numerals always indicate major harmonies. I do not notate secondary dominants because sub-circle motion specifically resists their fulfillment and arguably their function.
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6. "One Slip" hints variously at E♭, G, B♭, and C as tonics. My hearing of verse 1 in E♭ is supported by its extended marimba introduction that consistently voices A♭ as the fourth scale degree, and by the tonic pull that E♭ exerts at the start of each verse. As with Examples 7, 9, and 12 ahead, song structure and other features can give rise to fourth-related ambiguity of tonal center, as described by Stephenson (2002, 47–48). Relatedly, the brief melodic G here presents a little vagueness as to whether the vocal melody's cadence formula leans more toward an implicit I or V arrival atop the harmonic layer's IV chord.
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7. In 2009, the email discussion list of the Society for Music Theory exchanged over a hundred messages in a thread about this chord succession, beginning with a citation of Donovan's 1968 "Atlantis" and ultimately finding related motion in (among others) ABBA, Snoop Dogg, William Byrd's setting of "The Hunt's Up," and Antonín Dvořák's Symphonic Variations op. 78, var. 5. See SMT-Talk Archives (2009a; 2009b).
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8. Cee-Lo Green's 2010 "Forget You" employs the I–II–IV–I chord loop, and its title hook emphatically voices the fifth scale degree over IV, but this behaves as much like a hierarchy divorce as it does a syntax divorce—owing to the note's lack of stepwise approach, its weak-beat, mid-phrase arrival, and the melody's greater implication of the tonic triad than the dominant.
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9. Nirvana's music is infamous for precisely this sort of dissonance. See McDonald (2000) for more.
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10. It is initially possible to hear the chorus in A♭ (following the A♭-E♭ alternation of the verse), but by the song's end, its repetition negates such a listening. See note 6.
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11. This excerpt is framed on both sides by A major, but if one hears it in D, then the active paradigm is V–♭VII^{add9}. See note 6.
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12. This is the single minor-mode example of I–♭III^{add9} that I mention in [1.3.2].
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13. As tests of alternative classifications: we should not simply call the melodic $\hat{4}$ atop III a non-chord tone, as it occupies the entire measure without deferring; nor is it a clear case of hierarchy divorce, given that the dissonance doesn't derive from the melody's prolonged tonic harmony but instead from linear motion; nor is it a loop divorce, given that no harmonic loop is established as separate from the melody.
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14. Because the present article introduces a generalized phenomenon of sub-circle motion, I choose to acknowledge each standard paradigm of general possibility without attempts to collapse them. I am sympathetic to de Clercq's recommendations such as his advocacy of "six-based minor" and the Nashville number system. At this early stage, however, I wish to retain two important considerations regarding sub-circle phenomena. First, Roman numeral notation (including its affordance of the minor tonic i) underscores the way these gestures reinscribe functional tonality—even to a degree that appropriately marks them as old fashioned, per [3.1.6], [3.1.8], and their footnotes. Second, I do not want to flatten certain distinctions between relative reframings, such as the strong hypermetric tendency of II–IV^{add9} that IV–♭VI^{add9} notably lacks. It is likely that de Clercq's 2021 theorization of a triple-tonic complex can, by re-slicing categories of pop tonality, contribute to debate, for instance, over whether the sub-circle behavior of Example 6 ("Soul in Isolation" by the Chameleons) more resembles Example 5's IV–♭VI ^{add9} move in a parallel major frame, or Example 3's II–IV^{add9} gesture. This is a concern for the future.
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15. It is true that in Example 14, Starship uses a synthesizer to arpeggiate through the ♭VII chord's major seventh, a feature unrequired and even undesired for clarity of stratification, per [1.2.6]. But its sub-circle quality is otherwise robust enough to be undeterred. In those rare moments of the seventh's inclusion in ♭VII (usually major, not dominant), the resulting presence of $\hat{4}$, $\hat{6}$, and $\hat{1}$ underscore ♭VII's capacity for "embodying subdominant aspects," as Biamonte (2010, 97) has observed. Incidentally, a more complete analysis of "Nothing's Gonna Stop Us Now" would note the previous appearance of ♭VII during the prechorus as a dominant substitute. It would focus on the direct succession from the deceptive ♭VII^{add9} into the first tonic of the proceeding verse. A savvy analyst might even connect the chorus's prominent melodic use of the fourth scale degree with the ♭VII chord's "double plagal" characteristics. And a particularly creative thinker would provide hermeneutics to the double duty of ♭VII as a substitute for both V (in the prechorus) and I (in the chorus). Specifically, consider how Freudian conceptions of doubleness relate the chord to the duet structure of the song and its role in the 1987 comedy *Mannequin*, which concerns a dummy coming to life.
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16. In the corpus of de Clercq and Temperley, +M2 chord motion occurs 1,384 times to +m3's 410, and more specifically (61), ♭VII moves to I 386 times to vi's 144. Adjusting this for total frequency within the corpus (60)—♭VII's 748 to vi's 674—♭VII is 2.42 times more likely to proceed to I than vi is. It is important to mind the chicken-and-egg issues of tonal language, but given the historical bent of de Clercq and Temperley's corpus, it is safe to say, if only empirically, that by 1987, ♭VII–I behaved more grammatically in rock than vi–I.
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17. As ever, there are idiosyncrasies: Bono's subtonic neighbor tone at the end of the chorus over V ("all I can do" at 3:11) is particularly intriguing. In a cover version, the Pet Shop Boys use an unflattened leading tone briefly over the subtonic chord.
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18. Historicizing rock's largely premillennial harmonic language is important, especially because post-2000 popular music offers new and alternative sonic strategies for navigating form. Asaf Peres (2016, 39) boldly asserts that pop since 2011 "has largely abandoned harmonic function as a means of achieving tension and release."
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19. Less straightforwardly cadential V–♭VII^{add9} motion also occurs in the verse of the Beatles' 1964 "I'm a Loser," the hook of David Bowie's 1971 "Changes," and the verse of James Taylor's 1970 "Fire and Rain." The early dates of these oddball examples testify that the gesture became more standardized as the 1980s approached.
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20. de Clercq and Temperley do not indicate how many of these uses occur within major- versus minor-mode songs, though some of this blues-based corpus vexes that binary anyway.
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21. To this effect, ♭VII's role following V stands alongside other "soft" harmonizations of î, such as I–V–IV in the Who's 1971 "Baba O'Riley" and I–V–ii7 in Bob Dylan's 1973 "Knockin' on Heaven's Door."
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22. For example, in "Radio Free Europe," REM's 1981 debut single for Hib-Tone Records, the first utterance of the lyric "radio station" at 0:18 may potentially be heard as VI–I^{add9}, though it is also locally analyzable as II–IV^{add9}.
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23. For instance, the final moments of Nine Inch Nails' 1989 "Something I Can Never Have" prepare a plagal cadence, but instead of a conclusive tonic, the harmonic layer stratifies to ♭VII beneath the melodic î.
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